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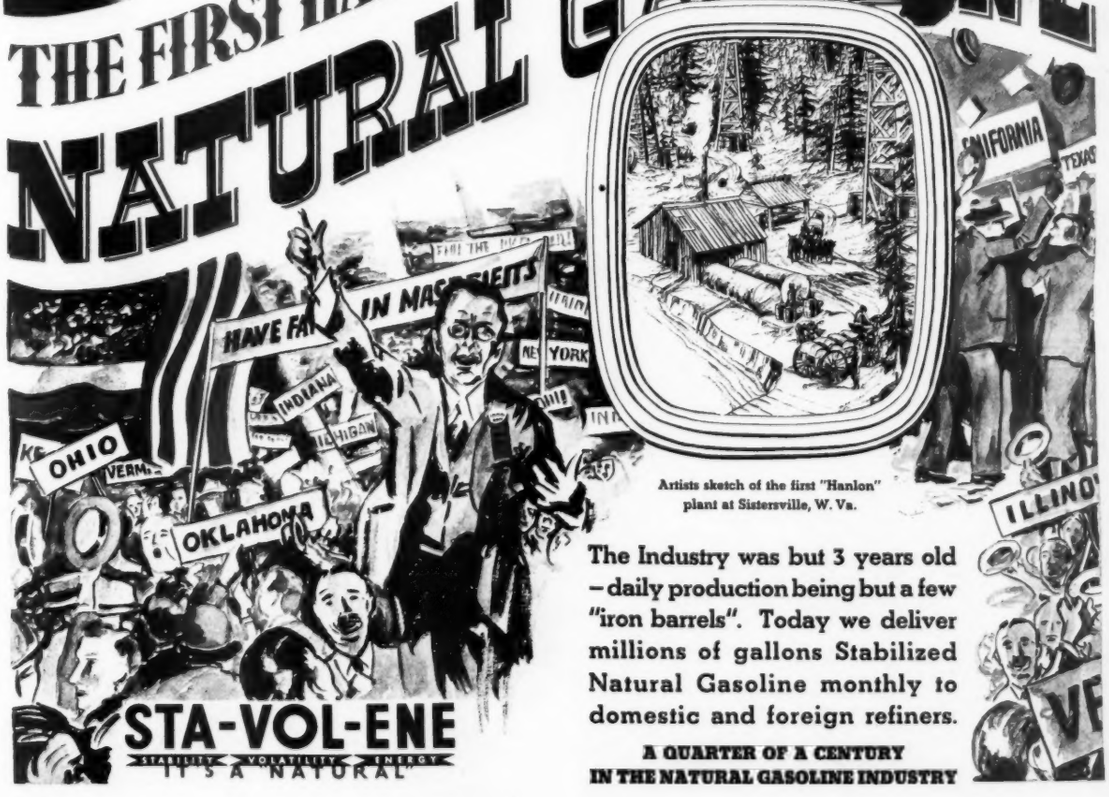

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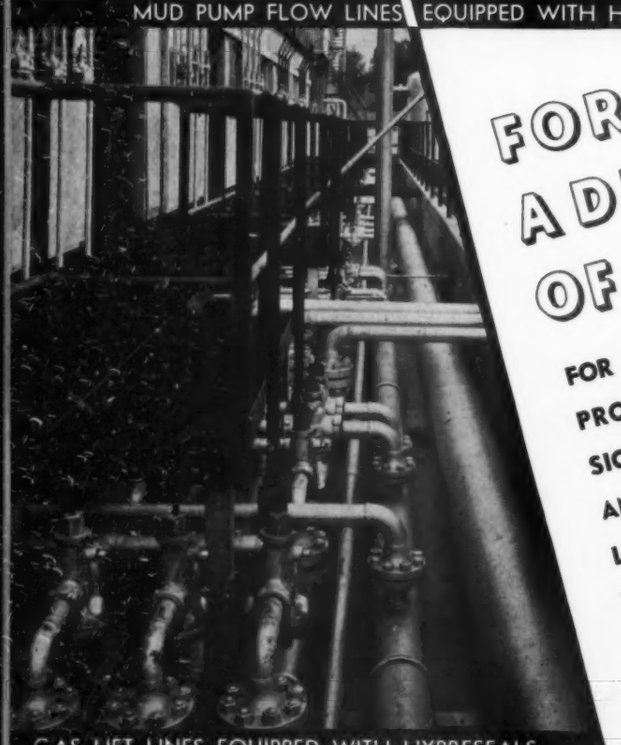

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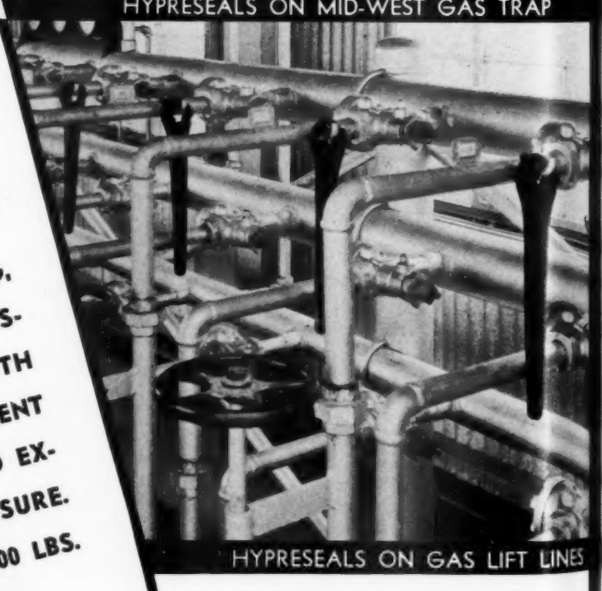

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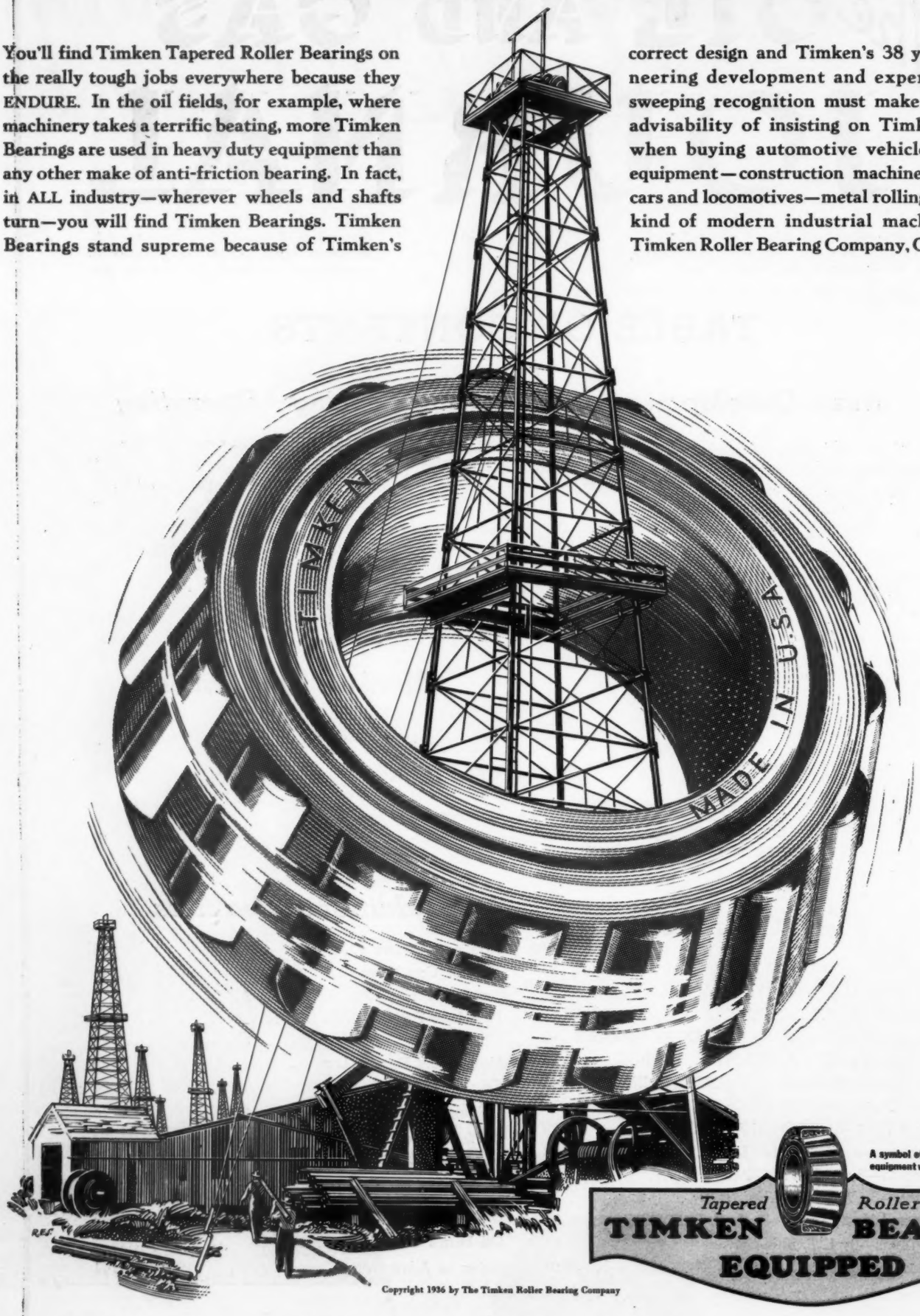

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States Reduce Output at Start of June

DEVELOPMENTS the last week in May brought a better feeling in regard to current statistical conditions with many hopeful that June will witness further improvement. In the crude oil end, production was reduced 68,643 barrels daily after maintaining a level of better than 3,000,000 barrels for two weeks. The bulk of the reduction was accounted for by the lowered output of Texas and Oklahoma which with Kansas and New Mexico have a definite program of additional reductions in June in order to bring crude supply in line with current demand. Field developments included the failure of important extension and wildcat tests which would have added substantially to proven areas if they had shown commercial production.

Scattered reports from all parts of the country indicated that the Decoration Day holiday and week-end brought the largest gasoline consumption of the year. Shipments from refineries increased the first of the week as a result of this demand and the favorable outlook for June. No important changes developed in refinery and retail prices on gasoline. Many were confident that the increase in seasonal demand and the efforts being made to restrict crude production would bring a stiffening in refinery markets generally over the next 30 to 60 days.

A deep producing zone was opened in the Cement field in Caddo County, Oklahoma, the discovery well flowing 442½ barrels in nine hours on Saturday from sand at 6,285-6,367 feet, total depth. It is also good for 50,000,000 feet of gas per day. The northwest end of the Capitol extension of the Oklahoma City field and inside the city limits was made to look bad in the past week when salt water broke in on a well which started at 546 barrels of oil in six hours. It is three blocks west of a 20,000-barrel well. Continental Oil Co. apparently was opening a new pool in Ness County, Kansas, which filled up 2,750 feet with oil from Siliceous lime at 4,446-62 feet, but had not been tested.

Production 2,935,342
Decrease 68,643

A well which extends the Clara Driscoll field in Nueces County, Texas, 1 mile, blew in on Sunday flowing about 2,000 barrels per day. A 1,000 feet of drill pipe was blown from the hole and the derrick wrecked. This is the largest initial producer the lower Gulf Coastal fields have had in some time.

Dick Schwab, in the Gulf Coast field appears to have made another discovery with his No. 1-A Kirby Lumber Co. in the Ace field in Polk County, Texas. The well tested 400 feet of oil in nine minutes on a drill stem test. The area has been known as a gas field and this well may be the first oil producer in the field. The most extensive leasing campaign in North Louisiana since the discovery of Rodessa was brought to a discouraging conclusion in the past week when the Pyramid Oil & Gas Co. test in western Caddo Parish, tested salt water, total depth of 5,210 feet.

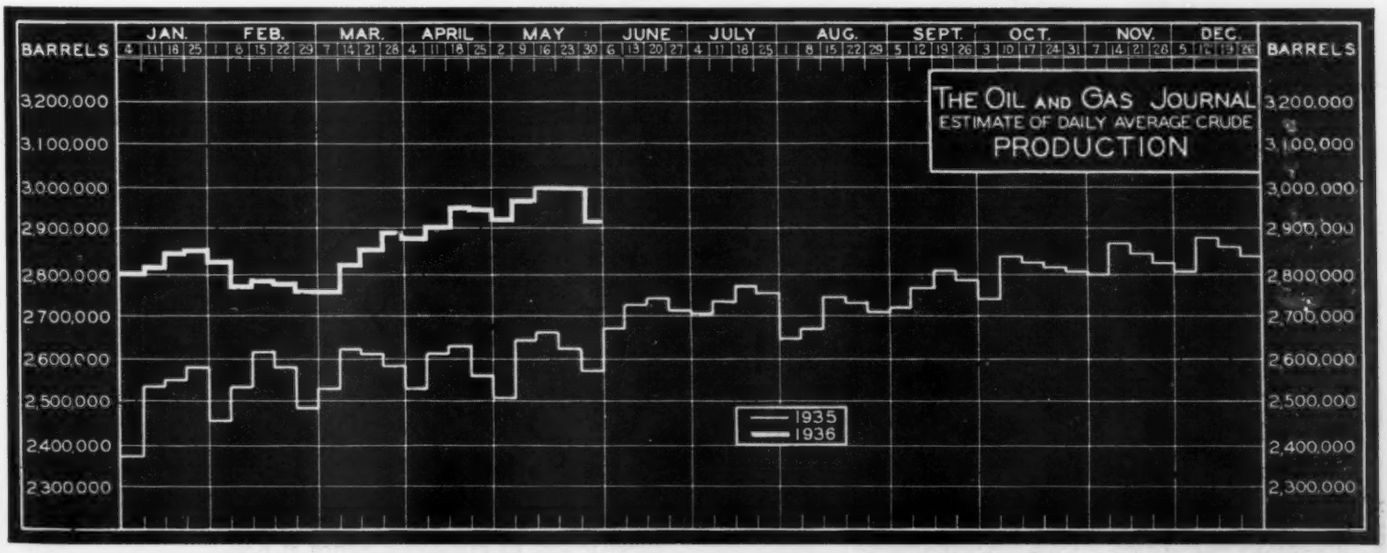
Daily Average Production for Week

	May 30 1936	May 23 1936	June 1 1935
Oklahoma City	110,575	141,825	138,950
Seminole-St. Louis	104,200	103,910	99,075
Remainder of State	316,825	312,941	256,750
Total Oklahoma	531,600	558,676	494,775
East Texas	443,586	455,292	468,097
West Texas	177,675	185,950	151,075
North Central Texas	84,279	85,587	84,610
Texas Panhandle	62,450	65,251	62,523
East Central Texas	51,850	52,389	47,375
Gulf Coast Texas	251,839	259,182	178,473
Southwest Texas	81,937	80,596	59,050
Total Texas	1,153,616	1,184,247	1,051,203
North Louisiana	84,580	89,250	23,185
Gulf Coast Louisiana	148,642	147,195	115,927
Total Louisiana	233,222	236,445	139,112
Santa Fe Springs	43,250	42,300	35,500
Long Beach	65,500	66,900	58,500
Kettleman Hills	76,500	79,800	51,500
Remainder of State	383,250	385,250	324,500
Total California	568,500	574,250	470,000
Kansas	155,275	157,125	153,225
Arkansas	29,830	29,975	31,190
Eastern fields	107,500	107,750	105,000
Michigan	32,959	33,727	40,326
Southeast New Mexico	64,930	65,630	49,960
Rocky Mountain area	57,910	56,160	50,180
Total United States	2,935,342	3,003,985	2,584,971

Crude Oil Stocks in U. S.

(BUREAU OF MINES ESTIMATES)

Week ending May 16, 1936	315,481,000
Week ending May 9, 1936	314,899,000
Week ending May 11, 1935	341,771,000



SPARKS FROM THE NEWS

Postponement

But regulatory bills crowded out in closing rush will be revived in next Congress. One reason to take an interest in Congressional election.

Sieve

Eleven seismographic crews are sifting Southern Arkansas, even Smackover, to six and seven thousand feet encouraged by deep discoveries elsewhere.

Crossing

Eastern railroads advertising fares cut almost in half may cause some revision in gasoline consumption estimates. Look out for the locomotive.

Goblin

"Chaos" is predicted if the new Guffey bill does not pass. Recalling similar prediction about NRA and others.

Extra

Forty-eight per cent of all trucks are used by growers, processors and distributors of food who pay $150,000,000 of the $314,000,000 taxation on trucks. Rest of us find it in our food bill.

Revolt

Nebraska with one-third of its highway revenue diverted and only 10 per cent of its roads improved proposes amendment to stop diversion.

Lesson

West Central Texas operators asking for reduction in allowable, fearing output may exceed demand, offer example to everybody.

Waterhaul

Louisiana administration seems determined to get all it can from oil industry. Raising gasoline tax to seven cents may prove disappointing.

Mitigation

Crude stocks went up another half million barrels week ending May 16, a smaller increase than week before, if that's any consolation.

Breadline

A cent a gallon federal tax on heating oil is coal industry's suggestion to raise $158,000,000 for revenue bill—and put coal men on relief.

Halter

Progress toward lower costs and prices is being offset by increased taxation, says President Grace of Bethlehem Steel. Mouthful!

Production

Producing companies are interesting themselves in water-flooding. They are not looking for just big wells.

Regulation

Louisiana may find bottom-hole pressure curtailing Rodessa more effectively than its law-makers.

Supply

For good of oil business industrial fuel oil users should be assured there can be no early shortage.

Vaccine

The drill is making large sections of Oklahoma City safe for home owners.

Exhibit

Just as survey limits Michigan gas reserves state reports its largest gas well, 67,000,000 feet. Only the drill can tell.

Flight

Passenger miles flown on commercial lines in United States last year totaled 313,000,000 against 95,000,000 in 1930.

Appreciation

Mississippi thinks it necessary to regulate gas production to conserve what it has.

Salt Water Limits Extension of Oklahoma City Field

By L. G. E. BIGNELL

They always say the only thing that will stop the drilling of wells in any field is the drilling of dry holes or water wells. Within the past 10 days a well just north of the city limits of Oklahoma City has drilled into water and this marks the northwestern edge of this field. The well, known as Anderson & Prichard No. 1 Wheeler, SE corner SW section 15-12-3w, found the top of the Wilcox sand at —5,289 feet and drilled into water between —5,330 and —5,340 feet, definitely locating the salt water level in this area.

The east offset of this well is Barnsdall Oil Co. No. 1 Guthrie, in which top of the Wilcox was found at about —5,260 feet, unofficially reported as good for from 12 bbls. per hour. Total depth is —5,280 feet with no water showing.

To the north of Anderson-Prichard No. 1 Wheeler Big Chief Drilling Co. No. 1 Hagenmeister was shut down at a depth of —5,317 feet without show of oil, another marker to the northwest limits of the field.

From several wells recently completed in the northeast extension of the Oklahoma City field it is now apparent the Wilcox sand there has been deposited in the form of a long, narrow anticline with little dip to the north but deeply dipping along the west flank. Between Twenty-third Street and Fortieth Street the top of the Wilcox sand has only about 100 feet of north dip. The Wilcox sand is about 1½ miles wide between the —5,280-foot contour and the fault line in an east-west direction along Twenty-third Street, while at the Fortieth Street section of the field the Wilcox sand is less than one-half mile wide.

One other well used for a control point in contouring the top of the water level is Barnsdall Oil Co. No. 1 Lyon in Block 5 of McNabb-Hunt addition, about four blocks south and one block east of Anderson-Prichard No. 1 Wheeler. It was drilled to a total depth of —5,298 feet and after producing 546 bbls. of oil in six hours started to make salt water and has been plugged back 15 feet. This tends to place the water level somewhere between —5,283 and —5,298 feet.

Determining that the present water level in this northern extension to the field is at about —5,280 feet below sea level is an important development. The original water level for this field was —5,400 feet and it was reported April 15 of this year that the water level was about —5,310 feet. These data may indicate the water has encroached 30 feet up-dip since April 15 or the movement has been about 120 feet in all parts of the field since the Wilcox sand was opened. Bottom-hole pressure in the north extension wells was about 400 pounds per square inch the middle of April and this is a drop of 2,260 pounds from the original pressure of 2,660 pounds and because of this drop of formation pressure it may have been possible for the water in the north end of this field to have moved up-dip and forced the oil ahead of it.

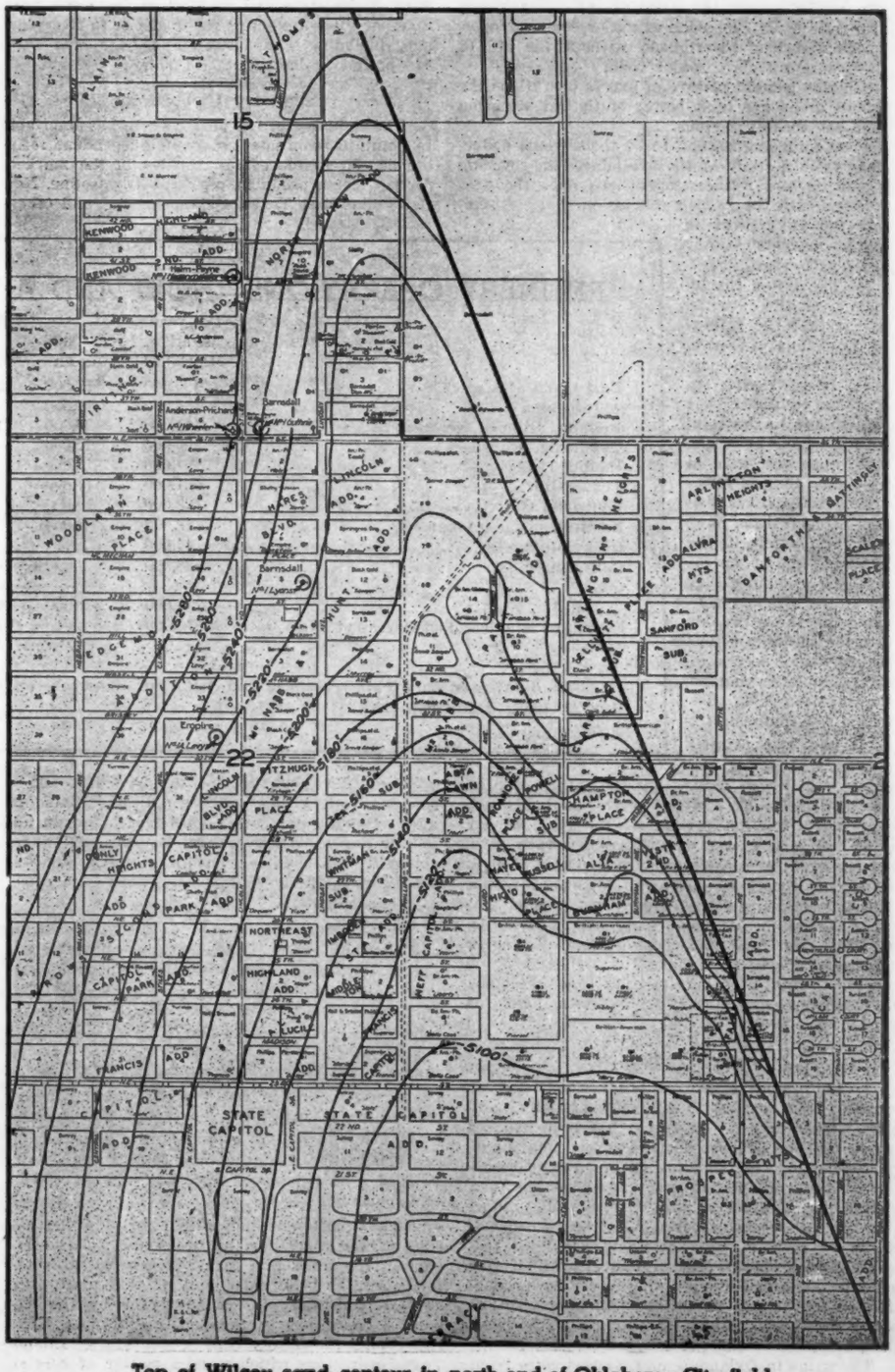
The accompanying map fully outlines the present status of sand conditions in the northeast extension to the Oklahoma City field. The first wells completed in this district were all located on a relatively high section of the Wilcox sand and came in good producers. They have been allowed to produce about 8½ per cent of their daily potential which has helped materially in permitting them to secure sufficient oil to justify the expense of drilling.

The June potential for the Oklahoma City wells in this north extension zone has been cut to 4½ per cent. Upon this basis any well that cannot make more than 4,450 bbls. of oil on a potential test will be allowed to produce up to 200 bbls. daily.

This condition indicates many of the wells now drilling will not be able to make the minimum potential of 4,450 bbls. and will therefore be classified as 200-bbl. wells and allowed to produce up to that amount of oil without definite allowable.

Many of the tests in the north end of the field beyond the city limits and to the west of what is now mapped as the —5,280-foot contour, or water level, have been shut down and their future will be determined by the completion of other wells to the east or up-dip and away from the water level.

These recent developments seem to definitely indicate no oil will be found in the Wilcox sand west of the Santa Fe right-of-way thus eliminating further controversy about drilling zones.



Top of Wilcox sand contour in north end of Oklahoma City field

Producing and Refining Situation Due To Expansion of Major Operations

By C. O. WILLSON

Present excess gasoline stocks of 8,000,000 and 10,000,000 bbls. are largely in the hands of major companies and have been brought about through the expansion of their plant operations since the first of the year.

The record crude oil production which for two weeks passed the 3,000,000-bbl. daily figure also reflects an expansion of major company operations and has materialized without the aid of flush output from a major field.

In this general picture of excess operations the inland areas are in a better statistical situation than the coastal sections.

The foregoing appear to be the obvious deductions from a study of the available data covering producing and refinery operations over the past 90 days with the further conclusion that the remedy for any threat to stable markets largely rests with these operators. The latter conclusion is modified to the extent that the refusal of Louisiana conservation authorities to cooperate in restricting operations equitably, has contributed to the total excess which has been more apparent there in producing than in refinery operations. Louisiana oil operations, however, are largely in the hands of major operators and assuming that the state officials continue in their present attitude the responsibility for the success of any voluntary plan of limiting supplies, lies with a few companies.

It has been pointed out by students of the industry in recent weeks that the causes of present difficulties as outlined above do not duplicate overproduction periods of the past. In the crude oil end, excess output has generally been associated with the discovery of a major field in which small operators were an important factor. The immediate cause of the overproduction was the flush output of these fields. The long period in which the East Texas production dominated the operations of the industry was the latest example of this situation, preceded by Oklahoma City, Seminole and some of the earlier major fields of the Southwest.

Crude Production

While present crude oil production has been running from 300,000 to 400,000 bbls. daily more than a year ago the expansion has been brought about without a large increase from any single pool. The Rodessa field was unknown a year ago, but its peak production so far has been less than 75,000 bbls. daily. The gain in crude oil production for last week compared with the corresponding week in 1935, as shown on page 9 of this issue, totaled 350,000 bbls. Practically all of this gain is accounted for by the increased production of four states as follows: Oklahoma 36,825 bbls.; Texas, 102,413 bbls.; Louisiana, 94,110 bbls.; California, 98,500 bbls., and Kansas, 15,000 bbls.

The gains in Oklahoma and Kansas come from several pools. Seventy-five per cent of the increase in Texas is accounted for by the coastal fields with no large gain in any one new discovery. The increase in California has been brought about largely by expanding the production of fields that have been known for several years. The Louisiana increase comes from several pools in the south part of the state and Rodessa in the north part. Some of the outstanding fields of one to five years ago, including East Texas and Oklahoma City, are producing less than last year.

Refinery Operations

The industry in the past usually has been able to point to some new group of independent refiners as the source of its troubles in the markets for petroleum products, particularly gasoline. New fields like East Texas, Oklahoma City and others which during their flush periods were difficult to control, made cheap crude supplies available to new refineries or older independent plants in adjoining areas. When general overproduction resulted it was possible to point to cheap gasoline coming from these plants as the immediate cause of price reductions.

Such a situation does not exist at this time and the data given in the accompanying table explains why. East Texas refiners as a group are running less crude than they were a year ago. The Rodessa development has not brought any important expansion in independent refinery operations. While there has been a gain in the total refinery crude runs in Oklahoma and Kansas, the bulk of the increase has come from plants owned by major or semi-major operators. The smaller independent companies which have operated for years in most cases have had difficulty maintaining the operations of a year and two years ago. Few have pipe line connections to the newer pools.

This situation is indicated clearly in the accompanying table. For the two weeks under comparison the total gain in crude runs to stills totaled 261,000 bbls. daily and of this total over 200,000 bbls. daily is accounted for by the expanded operations in the Indiana, Illinois, Kentucky and the Texas Gulf Coast areas. Inland Texas operations which were a matter of special concern during 1932-1935 are practically on the same basis as a year ago and there has been little change in the other smaller refining areas.

Indiana, Illinois and the Texas Gulf are centers of major company refinery operations. For the two weeks as shown in the table, East Coast crude runs are practically the same this year as last. Earlier in the year, however, East Coast operations were running substantially ahead of last year.

East Coast refinery operations are closely tied-in with those of the Texas Gulf in ownership and marketwise. East Coast refinery output has to be supplemented with supplies from the Gulf to supply eastern markets and when operations in one area are expanded unduly both areas are affected. It will be noted that East Coast gasoline stocks totaled over 20,000,000 bbls. on May 23, or approximately 30 per cent of the total. These stocks are also 2,924,000 bbls. greater than a year ago and are considered excessive to that amount by those who contend that motor fuel inventories should not exceed a year ago. These East Coast stocks account for almost 50 per cent of the excess east of California. Add the Gulf Coast and 60 per cent of the excess stocks are in those two areas. Stocks of inland Texas refineries are actually less than a year ago.

The situation in East Coast and Gulf Coast refining areas are a reflection of conditions both on the supply and demand sides. On the supply side a large part of the new crude production in the Mid-Continent has gone south by pipe line to the Gulf to supplement the increased supplies from the Gulf Coast fields. Outlets for crude have been made available through the enlargement of present refineries at the Gulf and the construction of new plants. The expansion of Gulf Coast refining capacity has exceeded any other area over the past two years.

On the demand side the export outlet for gasoline, largely supplying the Gulf Coast refineries so far this year has been disappointing. For the first quarter the foreign shipments were less than the same period in 1935. The domestic demand was slow for several weeks during the period of extremely low temperatures last winter and this also helped bring about a large accumulation of gasoline.

While California refinery operations have expanded over a year ago and stocks of gasoline as shown in table are much higher this change so far has only been of local importance. Excess California products have not competed directly with the remainder of the country and so long as that situation continues the West Coast operations are not of national significance.

Conditions at interior points in the United States are relatively better than along the East, Gulf and West Coasts. While crude supplies and refinery output have expanded in the Mid-Continent and Middle West the demand has also increased rapidly.

REFINERY OPERATIONS—NOW AND A YEAR AGO

	Daily runs to stills, May 23, '36	1936 gain	Motor fuel stocks, May 23, '36	1936 gain
East Coast	495,000	*11,000	20,228,000	2,924,000
Appalachian	105,000	*4,000	2,701,000	273,000
Indiana, Illinois, Kentucky	414,000	95,000	10,852,000	663,000
Oklahoma, Kansas	299,000	42,000	7,351,000	1,187,000
Inland Texas	107,000	13,000	1,553,000	*46,000
Texas Gulf	627,000	117,000	8,153,000	497,000
Louisiana Gulf	129,000	10,000	1,491,000	136,000
North Louisiana-Arkansas	49,000	4,000	481,000	211,000
Rocky Mountains	44,000	.....	1,532,000	440,000
California	528,000	3,000	13,280,000	2,323,000
Total	2,797,000	261,000	67,622,000	8,336,000
Estimated total based on Bureau of Mines data	2,975,000		72,490,000	

*Decrease.

Above data based on weekly reports of the A.P.I. for the weeks ending May 23, 1936, and May 25, 1935. Data in barrels.

Louisiana Is Looming as Big Factor With Coastal and Rodessa Gains

By NEIL WILLIAMS

HOUSTON, Tex., June 1.—With new fields being brought in and daily output continuing its sharp upward trend as development spreads, the Louisiana Gulf Coast is growing rapidly in importance as a producing district and already has reached a position in which it figures as a major factor in the general oil situation. Also, considering the belief potentialities have only been scratched and extensive reserves remain to be exploited, it is assumed there will be no early let-up in this expansion and that the district will make itself felt to a greater extent in the future.

Daily production of the district is approaching 150,000 bbls., the greatest volume in its history, and a figure which has been reached in a steady gain since before 1925. Based on the average for the first seven days of May, the production was 145,706 bbls., an increase of 15,268 bbls. over the daily average for the month of January. The daily average for that month was 130,438 bbls., which was 43,892 bbls. greater than for the same month of the preceding year, and nearly three times as much as for the same period of 1934. Ten years ago the daily output was only approximately 12,000 bbls., and the year before that 778 bbls.

These increases, augmented by the large flush flow of the Rodessa field in northwestern Louisiana, have boosted the total daily output of the state above a quarter million barrels, with the result Louisiana now is fourth among the producing states. A year ago it was fifth, and considering the Rocky Mountain states as one area it was sixth.

In view of the liberality which has been displayed by the state in respect to control of production, and in view of the prospects for additional new production, the gains made by Louisiana have been looked upon with some degree of concern by operators in other districts. So far most of the attention has been directed toward Rodessa where liberal allowables, coupled with an active drilling play, have caused daily production to jump above 50,000 bbls. daily within a comparatively few months. In Coastal Louisiana, the liberal allowables granted are offset to a large extent by the more conservative and limited development programs which are carried out in most of the fields to the end that there are no individually large flush producing fields.

This liberalness in well allowables no doubt has facilitated materially Coastal Louisiana's recent rapid rise in importance. Many of the newer fields and prospects have been located in isolated and almost inaccessible swamp or marsh regions, which cover a substantial portion of the district, and in some of the numerous bays, lakes and other water bodies which abound. Considering the problems and difficulties faced and costs involved, exploration and development of such fields probably would be prohibitive without some inducement in increased per well production.

According to the proration schedule issued by the Department of Conservation May 1, Coastal Louisiana fields have been allowed to produce a total of 141,975 bbls. during May, excluding eight fields in the district which are not included in the schedule. In the schedule, however, are 32 fields (Gillis and English Bayou being listed separately), which on May 1 had a total of 648 wells. On this basis the average per well allowable for the district is a fraction over 219 bbls. Fields not included in the schedule are Anse La Butte, Welsh, Edgerly, Old Hickory, Sorrento, Sulphur, Big Lake and Bayou Mallett. These had a total daily average for the first week in May of 7,125 bbls. from 125 wells.

In the apportionment of the allowed production, there are nine fields in which the daily allowable averages more than 500 bbls., ranging from 500 bbls. at Four Isle to 1,150 bbls. at Lafitte. These fields are:

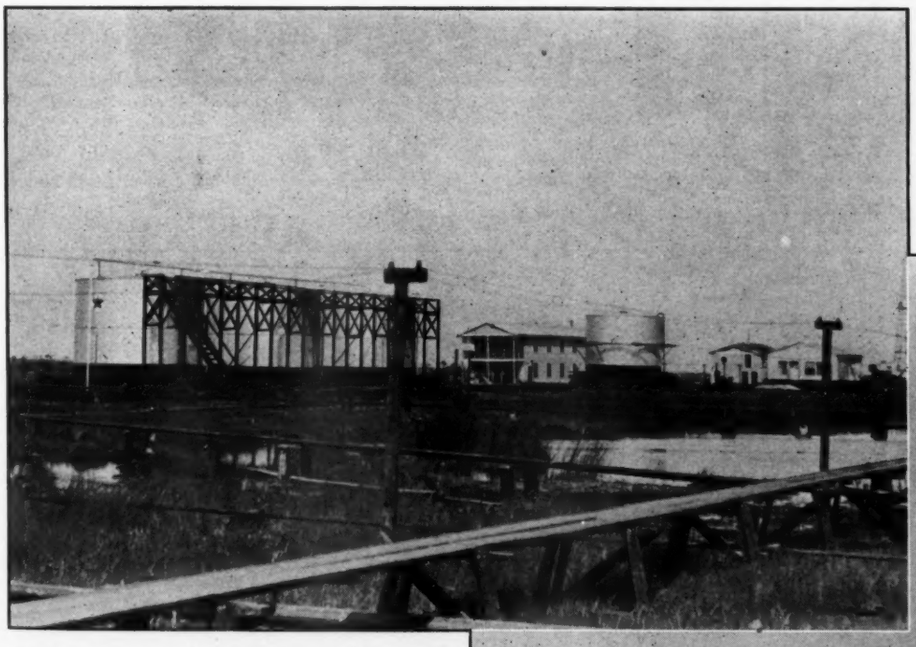
Field—	Total allowable	No. wells May 1	Av. allowable per well (bbls.)	Production May 1 (bbls.)
Lafitte	5,750	5	1,150	4,818
Garden Island Bay	2,150	2	1,075	1,154
Dog Lake	850	1	850	854
St. Martinsville	850	1	850	865
Caillou Island	13,500	16	844	10,879
New Iberia	4,000	5	800	3,658
Lake Pelto	1,250	2	625	1,259
Leesville	15,250	83	611	14,996
Four Isle	500	1	500	40

The average daily allowable of wells of the remaining fields ranges from 437.5 bbls. at Jeanerette, St. Mary's Parish, down to 23 bbls. at Vinton. Ten fields have daily allowables of 5,000 bbls. or more. They are:

Field—	Total allowable	No. wells May 1	Av. allowable per well (bbls.)	Production May 1 (bbls.)
Iowa	18,000	50	360	19,405
Leesville	15,250	83	611	14,996
Bosco	14,000	61	229	14,098
Caillou Island	13,500	16	844	10,879
Lake Barre	10,500	25	404	9,843
*Gillis	14,000	41	341	15,437
East Hackberry	7,350	48	153	8,073
Roanoke	6,250	19	329	5,499
Lafitte	5,750	5	1,150	4,818
Cameron Meadows	5,325	22	242	4,962

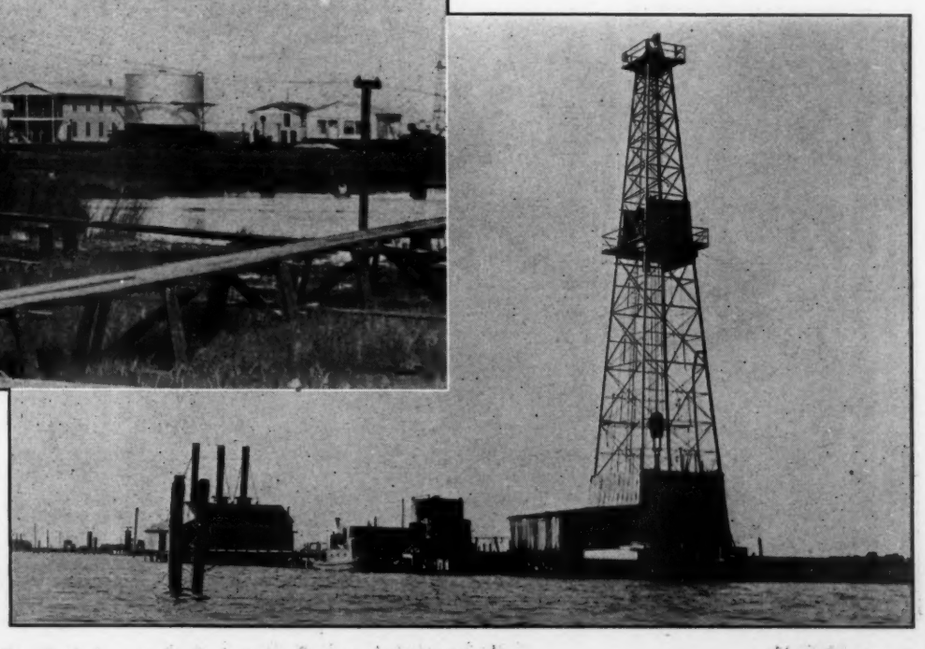
*Includes English Bayou district, which is classified as a separate field by Department of Conservation with an allowable of 6,500 bbls. daily.

Due to the costs of operating, drilling usually is restricted to a minimum number of wells consistent with effective recovery. While individual



Buildings are house boats in canal dredged into a marshy field

Wells on matting or piling foundations connected by walkways on small piling

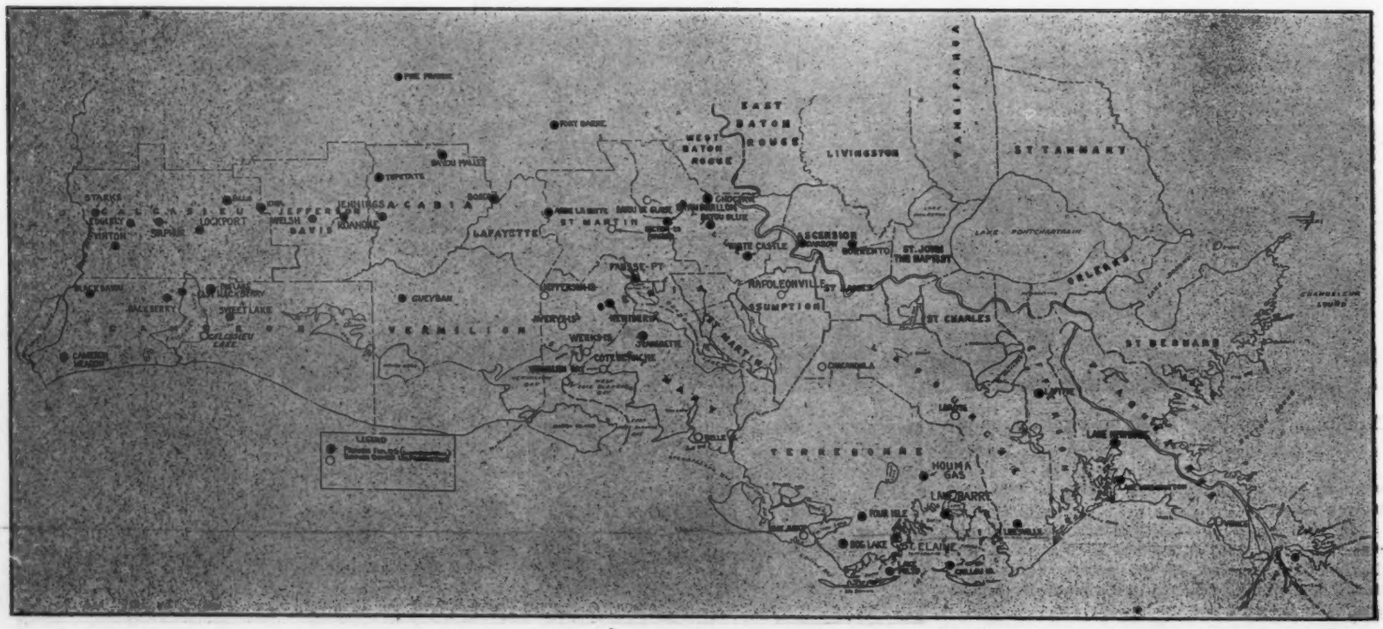


Louisiana Gulf Coast Oil Fields

(Fields Opened 1902-1925, Inclusive)

Field and parish—	Accumulated prod. to Jan. 1, 1936 (bbls.)	Total prod. four month, 1936 (bbls.)	Accumulated prod. to May 1, 1936 (bbls.)	Year disc.	Production peak year (bbls.)	Peak year	Daily avg. prod. May 1, 1936 (bbls.)	No. wells May 1, 1936	Daily avg. prod. Jan., 1936 (bbls.)	Dly. avg. prod. Jan., 1935 (bbls.)	Daily avg. prod. Jan., 1934 (bbls.)
Jennings, Acadia	45,372,902	223,639	45,596,541	1902	9,025,174	1906	1,988	44	1,655	1,166	846
Anse La Butte, St. Martin	988,727	5,647	994,374	1902	219,216	1908	60	5	42	50	39
Welch, Jefferson Davis	553,092	3,980	557,072	1903	52,212	1930	35	17	30	33	40
Vinton, Calcasieu	42,906,545	234,323	43,140,868	1910	3,392,270	1911	1,823	81	2,015	2,833	3,390
Pine Prairie, Evangeline	20,000	.....	20,000	1912	20,000	1912	0	0	0	0	0
Edgerly, Calcasieu	9,204,143	26,248	9,230,391	1913	1,563,862	1915	218	18	206	329	151
New Iberia*, Iberia	689,656	344,850	1,034,506	1917	532,506	1935	3,658	5	2,190	209	0
Lockport, Calcasieu	13,468,978	148,411	13,617,389	1924	2,026,757	1927	1,124	24	1,287	2,379	1,956
Total	113,204,043	987,098	114,191,141				8,906	194	7,425	6,999	6,422
(Fields Opened 1926-1929, Inclusive)											
Sulphur, Calcasieu	8,186,732	483,647	8,670,379	1926	1,370,317	1930	5,909	58	2,572	2,230	3,263
Starks, Calcasieu	2,225,793	59,730	2,285,523	1927	335,172	1933	495	18	495	620	691
Sweet Lake, Cameron	2,836,008	123,848	2,959,856	1927	684,853	1928	974	6	1,096	958	1,107
East Hackberry, Cameron	11,540,884	881,496	12,422,380	1927	2,424,268	1935	8,073	48	7,104	5,765	4,537
Old Hackberry, Cameron	2,232,761	39,492	2,272,253	1928	788,542	1929	321	20	326	579	335
Sorrento, Ascension	582,236	61,021	643,257	1928	273,066	1928	500	4	635	29	38
Bayou Bouillon, St. Martin	439,837	.....	439,837	1928	237,561	1928	0	0	0	0	0
Fausse Point, Iberia	1,737	.....	1,737	1928	1,737	1928	0	0	0	0	0
Black Bayou, Cameron	2,338,260	335,931	2,674,191	1929	567,865	1935	2,570	15	3,036	948	900
Dog Lake, Terrebonne	3,468	102,888	106,356	1929	3,468	1929	854	1	841	0	0
Lake Pelto, Terrebonne	254,527	62,251	316,778	1929	94,894	1935	1,259	2	450	0	42
Port Barre, St. Landry	5,284,099	313,937	5,598,036	1929	1,295,954	1935	2,115	25	2,709	4,135	2,212
Bayou Blue, Iberville	75,745	.....	75,745	1929	30,780	1930	0	0	0	0	0
Lake Barre, Terrebonne	12,056,831	1,145,206	13,202,037	1929	3,146,468	1933	9,843	26	9,265	5,606	5,844
White Castle, Iberville	1,446,228	89,088	1,535,316	1929	331,587	1931	596	6	773	551	782
Total	49,505,146	3,698,535	53,203,681				33,509	229	29,362	21,421	19,751
(Fields Opened 1930-1936, Inclusive)											
Caillou Island, Terrebonne	4,580,237	1,295,629	5,875,866	1930	2,872,415	1935	10,879	16	9,723	5,647	2,501
Cameron Meadows, Cameron	1,604,713	685,930	2,290,643	1931	1,046,466	1935	4,962	22	5,762	1,415	359
Iowa, Calcasieu-Jefferson	16,395,001	2,275,314	18,670,315	1931	7,249,167	1935	19,405	50	19,784	17,772	11,770
Leesville, La Fourche	10,004,452	1,680,136	11,684,588	1931	5,012,492	1935	14,996	83	12,869	15,937	1,825
Lake Washington, Plaquemines	1,208,409	174,572	1,382,981	1931	511,852	1935	1,253	10	1,457	1,662	540
Choctaw, Iberville	943,058	127,736	1,070,794	1931	318,338	1934	1,050	5	1,186	429	996
Gueydan, Vermillion	574,631	22,894	597,525	1932	213,803	1932	179	4	199	240	358
Darrow, Ascension	257,042	130,157	387,199	1933	255,440	1935	1,312	4	942	29	0
Bosco, Acadia	7,390,721	1,752,131	9,142,852	1934	6,356,368	1935	14,098	61	15,715	11,554	0
Lake Hermitage, Plaquemines	52,998	8,705	61,703	1934	52,453	1935	5	1	117	0	0
Roanoke, Jefferson Davis	1,837,853	699,192	2,537,045	1934	1,598,624	1935	5,499	19	5,888	1,822	0
Gillis, Calcasieu	2,222,399	1,705,073	3,927,472	1934	2,172,351	1935	15,437	41	12,598	1,022	0
Four Isle, Terrebonne	230,414	37,565	267,979	1934	209,347	1935	40	1	425	597	0
Lafitte, Jefferson	543,081	439,160	982,241	1935	543,081	1935	4,818	5	3,150	0	0
Tepetate, Acadia	130,127	272,432	402,559	1935	130,127	1935	4,025	14	1,749	0	0
Garden Island, Plaquemines	85,558	104,638	190,196	1935	85,558	1935	1,154	2	371	0	0
Cheneyville, Rapides	7,918	38,727	46,645	1935	582	1936	582	4	163	0	0
St. Martinsville, St. Martin	29,218	105,370	134,588	1935	29,218	1935	865	1	884	0	0
Jeanerette, St. Mary	.....	158,538	158,538	1935	.....	....	2,650	4	669	0	0
Big Lake, Cameron	.....	3,350	3,350	1936	.....	....	23	1	0	0	0
Bayou Mallet, Acadia	.....	5,792	5,792	1936	.....	....	59	2	0	0	0
Total	48,097,830	11,723,041	59,820,871				103,291	350	93,651	58,126	18,349
Grand total	210,807,019	16,408,674	227,215,693				145,706	773	130,438	86,546	44,522

*Produced only small amount oil 1917-29; inactive 1929-34; 854,979 bbls. since 1934—74,437 bbls. before 1929.



wells may be permitted to produce at fairly high rates of flow to enable operators to offset the extra expense of development, the limited number of wells in any field, together with the systematic and steady drilling program carried on, forestalls the chance of the total production in such a field getting out of bounds. This is in contrast to fields in other districts in which production allowables may be much lower but in which the density of wells may be substantially greater.

Limited and conservative drilling programs are made possible by the fact that most of these fields are owned and operated by single, or relatively few companies. If controlled by more than one company, the ownership usually is held jointly, and for the most part this ownership is by large companies. Such ownership is almost compulsory in some of these fields in view of the additional wells and extra expenditures ordinarily involved in competitive drilling programs. In the more remote and isolated fields, companies are forced to make large investments in special transportation, housing and other operating facilities, and, with separate companies operating, these costs would have to be duplicated, which would be excessive.

At the same time, the fee ownership of most of these fields lends itself to unitized operations. The beds of the bays and other navigable waters, in which a number of good fields have been found and which offer extensive potentialities for exploitation, are owned by the state. These beds are leased in large undivided blocks to the highest bidder, which precludes the possibilities of diversified lease ownership. Also much of the marsh land along the cost comprises a vast undivided expanse, uninhabited except by a few trappers and fishermen who live along the few strips of high ground. Much of it had not even been surveyed before oil exploration began.

In their liberal attitude in respect to production, state officials have sought to allow the respective companies to produce daily a sufficient volume of oil per well to enable these companies to operate profitably and to reimburse themselves readily for the heavy expenditures and investments they are required to make. This has been an inducement to encourage development of Coastal Louisiana's oil resources. It is felt the Louisiana Gulf Coast has not received the development enjoyed by other states, and that in view the potential reserves believed to exist, the district, as well as the entire state, has not been receiving the proportionate share of the world's markets to which it is entitled.

Development of the district's potential reserves has been retarded to a large extent due to the difficult problems faced by wildcatters and operators in extending their exploration into the low lying swamp and marsh districts. It has been only in comparatively recent years that this exploration and development has begun to assume widespread proportions over the district. This is reflected in the increasing number of new prospects which are being found and the rapidly swelling list of producing fields.

Until 1926, only eight fields had been opened in Coastal Louisiana. All were confined to that part of the coast in the southwestern part of the state immediately adjacent to the Texas Gulf Coast development. They were located in the more accessible places along that comparatively high stretch of land, now known as the "Pacific High," which extends eastward across Louisiana, dipping off coastward and eastward into the swamp and marsh region. Up to that time it was possible to locate fields only by surface indications, such as domal elevations, deposits of paraffine dirt, gas and oil seeps, and similar evidence, so discoveries were limited to the shallow type of fields, and to such country in which the above indications could be noted.

In earlier geophysical work up to as recently as 1931, geophysicists thought largely in terms of shallow, piercement type domes, the only kind of fields operators had known much about in actual development up to that time. Consequently, although that geophysical work resulted in the finding of a great number of new fields, the discoveries were limited to the shallower type of field. However, with the development of the deeply seated blanket sand type of fields, the scope of exploration has been broadened, which has accounted for some of the increased number of new fields which have been developed within the last several years.

Deep sand fields already opened have yielded some of Coastal Louisiana's most consistent and prolific production, and it is probable that it will be from deep sands that the most extensive and important production of the district in the future will come. In view of the thickening and dipping of formations eastward into Louisiana and coastward it is only by deeper drilling as development spreads in those directions, that the known producing horizons on the Gulf Coast can be reached.

Of the total of 44 fields which were opened on the Louisiana Gulf Coast, 40 are producing. Two, Big Lake in Cameron, and Bayou Mallet in Acadia, were opened this year.

There are five fields with present daily production between 10,000 and 20,000 bbls., all developed within the past several years. There are seven other fields with present daily flow above 4,000 bbls., with varying volume up to 10,000 bbls.

There are 12 fields in Coastal Louisiana which have produced 5,000,000 bbls. or more, 7 of which have produced more than 10,000,000 bbls. each.

Date—	Daily av. prod. (bbls.)	No. producing fields
May 1, 1936	145,706	40
Jan. 1, 1936	130,438	38
Jan. 1, 1935	86,546	29
Jan. 1, 1934	44,522	24
Jan. 1, 1933	35,554	23
Jan. 1, 1932	28,874	22
Jan. 1, 1931	27,767	18
Jan. 1, 1930	19,909	20
Jan. 1, 1929	22,377	13
Jan. 1, 1928	14,126	10
Jan. 1, 1927	10,208	8
Jan. 1, 1926	12,342	7
Jan. 1, 1925	778	7

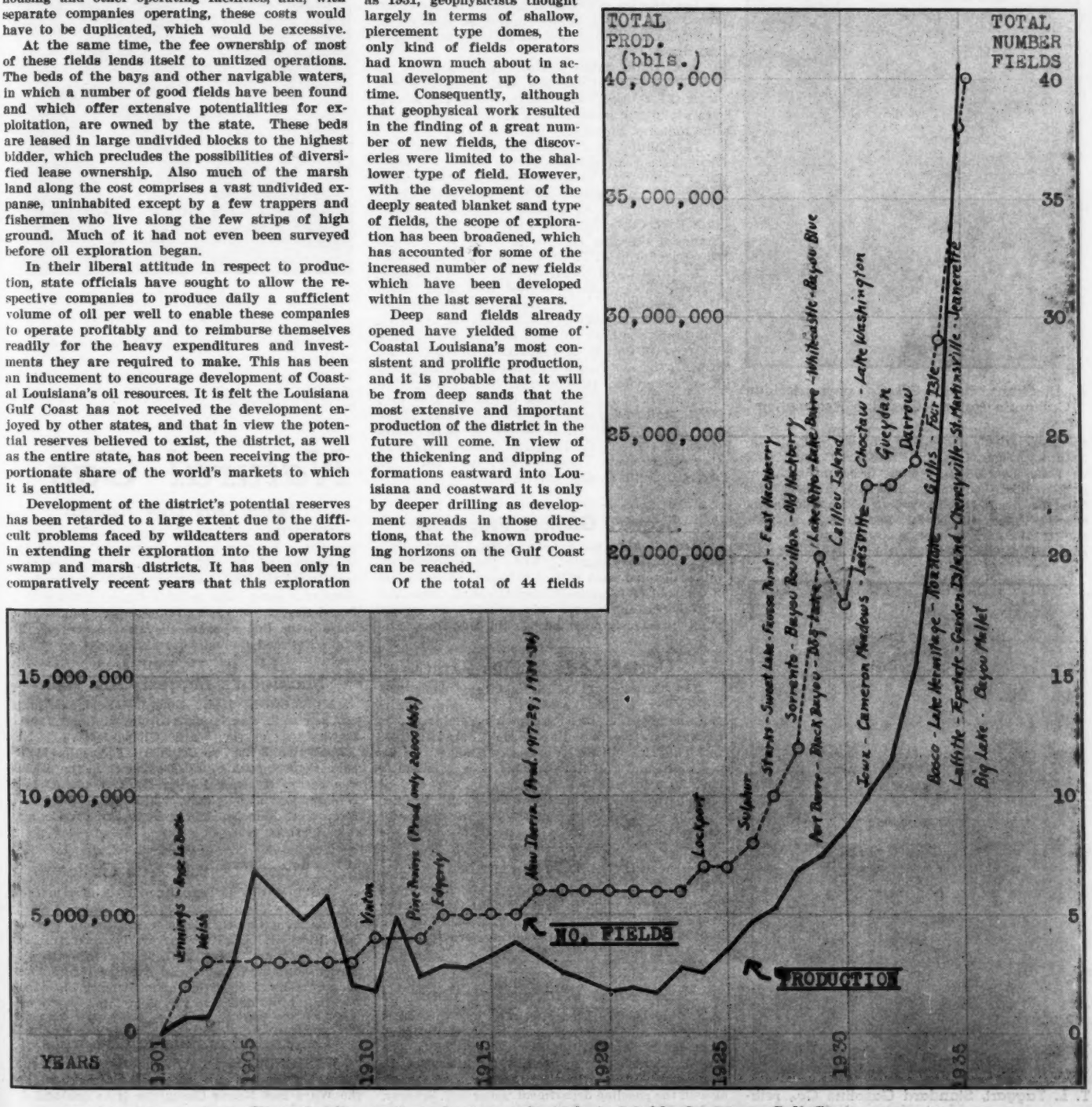


Chart showing total production and number of fields, Louisiana Gulf Coast

Natural Gasoline

New California Officers

R. D. Gibbs, manager gas operations of the Union Oil Co., and J. C. Burks of the O. C. Field Gasoline Corp. were elected president and vice president, respectively, of the California Natural Gasoline Association at the annual election of officers and directors held in Los Angeles this week. The election will be fittingly observed at

R. D. Gibbs, Union Oil Co. new president California Natural Gasoline Association

the association's June frolic to be held all day Saturday, June 6, at the Lakewood Country Club in Long Beach. An athletic program including golf, tennis, badminton, baseball, archery and horseshoes will be climaxed by a banquet in the evening which will be followed by a revue from one of the largest motion picture studios. The association's annual June frolic has consistently proven to be one of the outstanding events of its kind and is always well attended. Approximately 500 members of the association and their friends are expected to attend.

Mr. Gibbs, who is succeeding Tom Taggart of the Standard Gasoline Co. as president of the California Natural Gasoline Association, attended Pasadena High School and entered the University of California from which he graduated in 1917. He entered the employ of the Union Oil Co. in 1919 and remained at the company's Wilmington refinery until 1922 when he was transferred to the research department and subsequently conducted experimental work on gas absorption. On June 1, 1925, he was placed in charge of the Union's Rosecrans absorption plant and on January 1, 1931, he was transferred to the head office in Los Angeles as assistant manager of gas operations. May 1, 1934, he was appointed manager of gas operations, which position he holds at the present time.

J. C. Burks, newly elected vice president of the California Natural Gasoline Association, has been with the O. C. Field Gasoline Corp. for several years and has many friends in the natural gasoline industry throughout the country.

In addition to electing executive officers for the coming year, members of the association elected a number of directors for a two-year term. Newly elected directors are J. A. Campbell, Lomita Gasoline Co.; L. V. Cassaday, Lomita Gasoline Co.; F. E. Coyle, Associated Oil Co.; Earle Derby, Standard Gasoline Co.; O. C. Field, O. C. Field Gasoline Corp.; J. P. Gasser, Seaboard Oil Corp.; J. C. Gilbert, Barnsdall Oil Co.; R. H. Greene, Signal Oil Co.; A. S. Hayes, Kettleman North Dome Association; R. E. Haylett, Union Oil Co., J. R. Hoffman, Smith-Booth-Usher; W. A. Kirk, California Southern Oil Co.; Ben Koehler, Pacific Western Oil Co.; H. R. Linhoff, Richfield Oil Co.; R. S. Lytle, Los Nietos Producing & Refining Co.; P. S. Magruder, General Petroleum Corp.; William Moeller, Jr., Southern California Gas Co.; N. H. Mull, the Texas Co.; Warren Kraft, Honolulu Consolidated; W. N. Roper, Western States Gasoline Co.; T. L. Taggart, Standard Gasoline Co.; N. H. Wade, Parkhill-Wade, Inc., and R. E. Wells, Jr., Rio Grande Oil Co.

T. L. Taggart, Standard Gasoline Co., retiring president of association

Acquire Gilmore Properties

According to an announcement Gilmore Dabney, Inc., Los Angeles, Calif., has acquired the properties and good will of Gilmore gasoline plant No. 1, and of Gilmore-Dabney Gasoline Corp., and will hereafter operate the gasoline absorption plants previously operated by said companies.

Carter Adds to Fitts Plant

The Carter Oil Co. is installing eight 230-horsepower Cooper-Bessemer compressors at its gasoline plant in the Fitts pool of Oklahoma to increase its gas handling capacity by 20,000,000 feet daily. Additional absorption capacity is being added and a distillation unit is being installed but the original fractionating equipment will be used to handle the increased load. Construction work is expected to be completed within the latter half of June.

Takes Over Plant

SACRAMENTO, Calif., June 1.—The state has taken over the plant of the Hercules Gasoline Co. at Los Angeles in settlement of $224,000 in delinquent taxes, it was announced here today by Ray L. Riley, state controller.

Hulse Joins Warren Petroleum

Sam Hulse has been appointed assistant sales manager of the Warren Petroleum Co. He resigned from the Sinclair Oil & Gas Co., where he has served in numerous capacities for the past 13 years. Since 1930 he has been assistant sales manager in the gasoline department under A T. Scherer.

Mr. Hulse received his first experience in the oil business in 1923 when he accepted a job in the bulk sales department of Sinclair. After a few months he was transferred to the operating division of the gasoline department where he assisted with the handling of gas, gas contracts, and gasoline shipments.

In his spare time he studied engineering, and in 1927 became chief engineer of a combination

SAM HULSE

(Alvin C. Krupnick Co., Tulsa)

gas lift-gasoline plant in the Little River district of the Greater Seminole area of Oklahoma. Later he was made chief engineer of Sinclair's 18 unit gasoline plant at Pearson, Okla., which position he held until 1930.

Natural Gas

Texas Gas Law Appeal

WASHINGTON, D. C., June 1.—Texas was granted a hearing in the Supreme Court on its contention that its 1935 gas conservation law was constitutional. The court agreed to review decisions of a three-judge federal district court which found the act void and granted injunctions to two major pipe line companies against orders of the State Railroad Commission.

Michigan's Biggest Gas Well

MUSKEGON, Mich., June 1.—Michigan's largest gas well was brought in by Midland Petrol & Gas Co. on the Ward Gibbs lease, C NE SW section 3-12n-7w, Belvidere Township, Montcalm County, with 67,000,000 feet from the Michigan Stray. Hyatt & Norton No. 2 Fouts, C NW NW section 3, Belvidere, which made 31,000,000 feet as offset to No. 1 brought in three weeks ago for 53,500,000 feet.

Moore County Gas Outlet

FORT WORTH, Tex., June 1.—A new market for gas from Moore County is to be furnished when Illinois Zinc Co. completes a smelter in section 361, Block 44, H.&T.C. Survey, between Dumas, county seat, and Sunray, where there are already carbon black and casinghead gasoline plants. One unit is to be in operation about August 15, a second unit to be added to the plant later.

Oil and Gas Bills in Congress

WASHINGTON, D. C., June 1.—Although the Disney oil import tax bill has been reported by the Ways and Means Committee it is doubtful it will be passed by the house while it has not even

been considered by the senate. Practically its only chance would be as an amendment of the tax bill. Senator Thomas will introduce such an amendment.

The natural gas regulatory bill while still being pushed by Congressman Lea of California seems destined to go by the board. Also the Fuel Research Commission bill to promote the blending of alcohol with gasoline.

Refinery Projects

W.P.R.A. Service Bureau

Motorists in the Midwest and Southwest will benefit this summer from more rigid gasoline specifications adopted by Western Petroleum Refiners Association whose members include virtually all refiners in the Mid-Continent.

The new specifications change the octane numbers for third, middle and regular grade gasoline, set minimum allowances for gum and sulfur content and establish maximum vapor pressure allowances. The combined effect of the specifications will be to reduce knocking or pinging, reduce the number of gum-stuck valves and their consequent heavy repair bills. They will also result in a marked reduction in delay and inconvenience from "vapor locks" during hot weather.

To insure motorists of a continuous supply of gasoline meeting the W.P.R.A. specifications the association has established a service bureau for jobbers, marketers and refiners, which will provide immediate information concerning specification gasoline being offered by member companies. Through the bureau, purchasers may learn of gasoline being offered, the date and quantity available and the most advantageous shipping point. The service bureau, the association believes, will provide a needed marketing facility for gasoline buyers and consumers.

Under the new specifications, "third grade" gasoline has an octane number of 62 and below; "middle octane" 63 to 67 and "regular gasoline" 68 to 70. Formerly "regular" had an octane rating of 63 to 70. Octane number is the measure of the antiknock value of the gasoline. Ethyl or premium gasoline has a minimum octane number of 76.

Gasoline meeting the W.P.R.A. specifications must not have a gum content greater than 30 milligrams—a quantity which will not tend to cause valve sticking. Vapor pressure must not exceed 8½ pounds in summer and 12½ pounds in winter. It is excessive vapor pressure which tends to cause vapor lock in hot weather.

Acquire Gilliland Plants

The Gilliland Refineries, with plants located at Arp, Gladewater and Overton, Tex., and two casinghead gasoline plants operated in conjunction with two of the plants, have been taken over by the General American Oil Co., effective June 1.

National to Install New Still

CHICAGO, May 30.—National Refining Co. is planning the installation of a new $200,000 atmospheric vacuum distillation unit at its Findlay, Ohio, refinery. The project, which is expected to be consummated during the summer months, will virtually double the output of the refinery. The plant at present has a daily crude capacity of 3,200 bbls. and a cracking capacity of 1,350 bbls., the refinery occupying 65 acres. W. H. Lamprecht II, is president and general superintendent of the company, and George F. Arnold is superintendent of the plant.

New Michigan Refinery

ALMA, Mich., June 1.—Ground was broken last week for a fourth refinery in Alma, Mich., a 1,500-bbl. skimming plant to be erected by the Northern Refineries, Inc. E. G. Guy, designer of a number of Michigan's independent plants, is in charge of construction. Officers include: President, J. H. Frichet; vice president, D. M. McCuiag, and secretary-treasurer, F. C. Mapes.

Mid-West Refineries, Inc., and Leonard Refineries, Inc., are operating in Alma and the Wolverine refinery is being finished.

Pipe Line Activity

Haven Compressor Station

To prepare for the delivery of a larger volume of natural gas through the Panhandle-Eastern Pipe Line running from Texas to eastern cities and take care of the added load when the new section of line to Detroit, Mich., is finished, this company is installing near Haven, Kans., a new modern compressor station. It is now planned to have the work completed by September 1 ready to deliver gas through this 24-inch gas line at 400 pounds pressure.

It is reported the plant will consist of three 1,300-horsepower twin gas engine driven compressors installed in a new building. The main engine room will be 74x85 feet and an auxiliary building 130x38 feet, housing six large and two auxiliary pumps. In addition to these improvements a cooling tower, an elevated tank, boilers for steam power and a warehouse and garage with superintendent's residence are also being built.

The cost of these installations has been estimated at about $500,000 and the contract has been let to Fluor Corp. of Los Angeles, Calif. About 100 workmen are now employed on this job including many special workmen.

The weight of the structural steel used in these buildings is estimated at 272 tons. The machinery weighs about 885 tons, and pipe, valves and fittings approximately 300 tons. The covering for the buildings weighs 300 tons and the tanks about 40 tons while 19,000 sacks of cement will be used for foundations and other purposes.

In addition to this new station near Haven there are other pump stations near Sneed, in Moore County, Texas, with two 1,300-horsepower engines; at Liberal, Kans., where two 1,000-horsepower engines will be added; and Louisburg, Kans., and Glenarm, Ill. It is reported others are to be later built near Greensburg with three 1,300-horsepower compressor units, and Olpe, in Lyons County, Kansas, with four 1,300-horsepower units; at Centralia, Mo., with four 1,300-horsepower Worthington engines, and another plant at Louisiana, Mo., where the gas line crosses the Mississippi River on the Champ Clark high bridge. In all the company is adding about 28,000 horsepower in compressor plants on the line west of the Mississipi River.

Under the Mississippi River a multiple line is being laid to supplement the 22-inch gas line hung from the Champ Clark bridge.

On the eastern end of the system the Michigan Gas Transmission Co., a subsidiary of the Columbia Gas & Electric Co., is now building a 22-inch line from Zionville, Ind., to Detroit, Mich., a distance of 230 miles. A 5,000-horsepower booster station is being built at Zionville, where the Detroit line connects with the main line of the Panhandle Eastern company.

The line between Zionville and Detroit will cross seven large rivers, 35 railroads and 354 highways. The right-of-way has been secured through high-priced farm land. It is now planned to have this line completed to the city gates at Detroit, Mich., by August. Somewhere along the system gasoline plants will be installed to extract the gasoline from this gas before it is delivered for industrial and domestic consumption.

Ward County Loop

FORT WORTH, Tex., June 1.—Southern Ward County, West Texas, is to have its marketing outlet enlarged, Atlantic Pipe Line Co. now laying 10 miles of 6-inch line to loop the present line serving the field which ties into another line at Pyote to connect wiht the company's station and tank farm at Wink in Winkler County. Extensions to the southern Ward County area, and completion of many new wells, some of larger caliber, has necessitated the additional outlet. Some time ago Pasotex Pipe Line Co. mentioned the possibility of laying a line from the field to its main line out of the Hendricks field to connect with the Standard Oil Co. of Texas refinery at El Paso. Pasotex Pipe Line Co. is a subsidiary of Standard Oil Co. of Texas, which is a subsidiary of Standard Oil Co. of California.

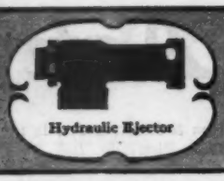
May Sell Rodessa Pipe Line

SHREVEPORT, La., June 2.—United Gas Public Service Co. announces it has entered into negotiations with East Texas Refining Co. for purchase of the latter's 6-inch pipe line from Rodessa to the refining company's 10,000-bbl. plant at Longview, Tex., a distance of 55 miles.

Third Wilcox Well in Billings

The third Wilcox sand producer in the old Billings field of Noble County, Oklahoma, has been completed at Phillips Petroleum Co. and Shell Petroleum Corp. No. 2 O'Neill, SW SE SE section 16-23-2w. It made potential of 3,561 bbls., with 75,000,000 feet of gas, from Wilcox sand at 4,217-46 feet.

Laying an 8-inch pipe line in Eastern Kansas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Cimarron River crossing in Seward County, Kansas, for 20-inch gas line of Northern Natural Gas Co.

First Dust, Then Rain, Retards Work on 20-inch West Kansas Gas Line

By L. G. E. BIGNELL

There is an old rhyme of the western prairies about the weather something like this:

"First it blew,
Then it snew,
And then, by jinks, it friz."

The first line might well have been written about the weather conditions prevailing in western Kansas along the route of the new 20-inch gas line being laid from Hugoton gas field to Mullinville, Kans., during the week of May 18, but instead of the wind being followed by snow it rained, and it rained so hard work was delayed for several days.

The wind was of such velocity sand and silt was carried into the pipe where it was strung along the right of way east of the Cimarron River and completely filled many joints in one 8-mile stretch. This wind-blown soil not only covered the pipe on the outside but actually filled it inside, and to remove this accumulation it was necessary for the contractor to secure a 40-foot crane mounted upon heavy tractor and hoist each 40-foot joint of pipe into the air until the sand ran out. It was not practical to attempt to swab the pipe free of sand as done in many instances.

In addition to covering and filling the pipe the moving sand acted as a natural sand blast and removed all of the priming coat from the pipe and it had to be reprimed. Subsequent sand storms again removed the primer and it appeared for a time as though it would develop into a race between priming crews and sand storms to determine whether the pipe could be primed and covered with protective coating before it was finally lowered into the ditch.

The wind storms held up the work for a greater part of the week of May 18 and on Saturday, May 23, it started to rain. This first rain in many months in this section of the "Dust Bowl" of western Kansas and Oklahoma fell steadily for about 24 hours and was welcomed by the wheat farmers and would not have seriously interfered with the work on the pipe line, but it did not let up then, continuing almost without stop for the week of May 25. Roads were flooded and fields became miniature lakes with streams overflowing their banks. This all occurred when the welding crews were almost through with their work, and according to Roy L. Day, in charge of this part of the work, it was the worst condition he had experienced in his several years of pipe line work in many parts of the Mid-Continent and along the Gulf Coast. The welding crews were completing about 10,000 feet of pipe daily and had about 6 miles of unwelded line when the dust storms started.

Ditch on gas pipe line after rains

This 107-mile stretch of 20-inch gas line is being constructed by Northern Natural Gas Co. to deliver gas from the Hugoton field where it is produced by the Missouri Valley Gas Co. and deliver it into the main line running north to Iowa, Minnesota and South Dakota. At Mullinville the gas is passed through a compressor station consisting of three 1,300-horsepower gas engine driven compressors and delivered into the main line which starts in the Panhandle of Texas. The gas at the Hugoton field end is delivered from the wells at a pressure of about 350 pounds per square inch, sufficient to transport it to Mullinville without aid of compressor stations.

The pipe used is of the welded type and is received in 40-foot lengths and it is then welded into two joint sections which are connected with Dresser couplings. All the pipe is primed and coated, and where tests have indicated "hot spots" or placed where soil corrosion might be high, it is wrapped in addition to coating. The pipe is buried about 30 inches and as it is lowered into the ditch it is partly covered, but every coupling is left exposed to be later tested with soapy water while the line is carrying air at 200-pound pressure. As these tests are completed the pipe is covered and later subjected to a line test before the section is approved.

Along the section east of the Cimarron River where sand dunes exist, some of the pipe was completely covered by the wind blowing the sand over it, and this presents a problem for the pipe line crews, for this pipe had not been tested at joints and must now be uncovered, probably by hand shoveling, to permit these tests to be made.

The wind also did many other freakish things, according to the pipe liners on the job. The soft pine marker stakes with the numbers placed on them with blue pencil were worn and the numbers obliterated by the sand blasts. The corners of these soft pine stakes were well rounded after one of the heavy wind storms, giving some idea of the cutting power of the sand.

It is further reported many snakes were found in the ditch after the wind storms, having either crawled or fallen in during the storm or blown in by the wind. But the best story is the one about the jack rabbits. It seems these creatures were frightened by the storm and, seeking shelter, jumped into the

Before and during dust storm — pictures taken 20 minutes apart

ditch and remained there while the wind storm swept the sand in and gradually filled it. One morning after such a storm it is reported as many as a half dozen full-sized jack rabbits were found buried in sand and silt up to their necks. The pipe liners took them by the ears and pulled

Cimarron River crossing looking east

them out of the ditch and gave them a shake and dropped them to the ground and they hopped off across the prairie.

Work on this line started April 2 and it is hoped to have it ready to take gas by July 1. The contract was awarded to Truman Smith, Inc., Eldorado, Kans., and Dunn Brothers had the hauling contract. Day Construction Co., Dallas, was awarded the welding contract. Northern Natural Gas Co. has a crew of inspectors on the job under charge of K. N. Fancher of Omaha, Neb.

There are three streams crossed by trestles. The longest is over the Cimarron River about 20 miles east of the gas field. This bridge is 1,800 feet long, while the one over Crooked Creek north of Fowler, Kans., is a combined trestle and truss type bridge about 230 feet long. The third bridge is over Rattlesnake Creek west of Mullinville and is about 350 feet long and of the trestle type.

These three stream crossings are all of the same general type, being constructed of 53-pound H beam leg columns varying in length from 49 feet to 64 feet on the Cimarron River crossing and approximately the same lengths at the two creek crossings. The legs are driven at a slope of 2 on 12 inches with a 3,000-pound hammer handled by a crane which is mounted upon a heavy tractor. The power is furnished by a gasoline engine and the line handling the hammer is spooled on a drum after passing over a sheave at the end of the boom. The tops of the H beams were protected during driving with a heavy steel cap, but the lower end of the beam was not prepared in any special way for driving. They were driven a sufficient depth into the soil or sand to insure a stiff leg section for the truss and were then joined across the top with a channel section which is welded to the flat side of the H beams. A cross member is welded lower on the two leg members and braces pass from upper to lower cross members.

These trusses are either 5 or 10 feet wide across the top, the wider bents being used on the Crooked Creek crossing. The steel pipe actually rests upon small bronze wearing plates attached to the top of the cross members.

To provide for expansion in the pipe on each crossing about 75 feet of pipe is laid at each end at an angle with the ground surface. The ditch is offset from the end of the pipe on the bridge a sufficient distance to permit these 75-foot sections to be connected between end of pipe in ditch and end of pipe on bridge with about a 15-foot vertical elevation. This gives about a 15-foot rise in the 75 feet of pipe and this pipe is not anchored in any way so as the pipe line on the bridge lengthens or shortens these riser pipes will be pushed away or drawn toward the end of the crossings. It is a very simple design of expansion joint but quite effective.

The soil along the entire right of way has been sampled and tested. No spots have been discovered where it is anticipated corrosion will be caused by soil conditions. As the couplings at the end of each 80-foot section form a break in the end to end connection between the pipe a copper bond has been brazed to the pipe on each side of the coupling and to the center ring of the coupling. This bond is made from copper wire about .46-inch diameter and later, if it is found necessary to induce a current along the pipe these bonds will carry this current across the gaps between pipe sections. As first laid the bonds will serve to carry any current that may be generated in the pipe line and keep it from building up and discharging at points of low resistance in the soil.

Of the entire 107 miles of line about 20 miles of pipe has been wrapped and coated while the balance is protected with a heavy bituminous coating applied by hand and through the use of rolling rigs hand operated.

Rodessa Well Allowable Cut; Field Total Remains Same

By H. STANLEY NORMAN

SHREVEPORT, La., June 2.—First retrenchment for Rodessa production in Louisiana and Texas in 60 days was ordered last week. Allowable production from wells on the Caddo Parish, Louisiana, side was ordered lowered to 275 bbls. per well daily during June by Dr. J. A. Shaw, director of the mineral division, Department of Conservation, but retaining Louisiana side total production at 50,750 bbls. per day.

The Texas Railroad Commission which has correlated its allowable in Cass County identically with that on the Louisiana side is expected to make the per well figure of 275 bbls. per day uniform throughout the bi-state field.

Despite reduction of the premium on drilling wells in Rodessa, production is expected to climb gradually during June until nearly equal to the last of May output, slightly above 60,000 bbls. a day. There are approximately 40 drilling operations which will reach the producing horizon within 30 days. Predication of the allowable on a flat per well schedule with no provision for adjustments as new wells are added will boost the field allocation 275 bbls. for each well completed.

The total Louisiana June allowable of 216,975 bbls., actually a reduction of only 50 bbls. under the May proration schedule, is 39,275 bbls. per day in excess of the figure recommended by the Bureau of Mines, 175,700 bbls.

DR. J. A. SHAW

In announcing the new June schedule, Doctor Shaw said it was a move by Louisiana to cooperate with Texas, Oklahoma, Kansas and New Mexico, which announced they intended to hold production within limits recommended by the Bureau of Mines. Oil men, however, point out the other four states have been exceeding the Bureau of Mines recommendations by 6,700 to 58,500 bbls. per day.

At the end of May, the Rodessa pool, including Cass County, Texas, contained 198 producing wells, but several are incapable of producing their allowable. It is common practice in Rodessa to extract full lease allowable from whatever wells are capable of making the production.

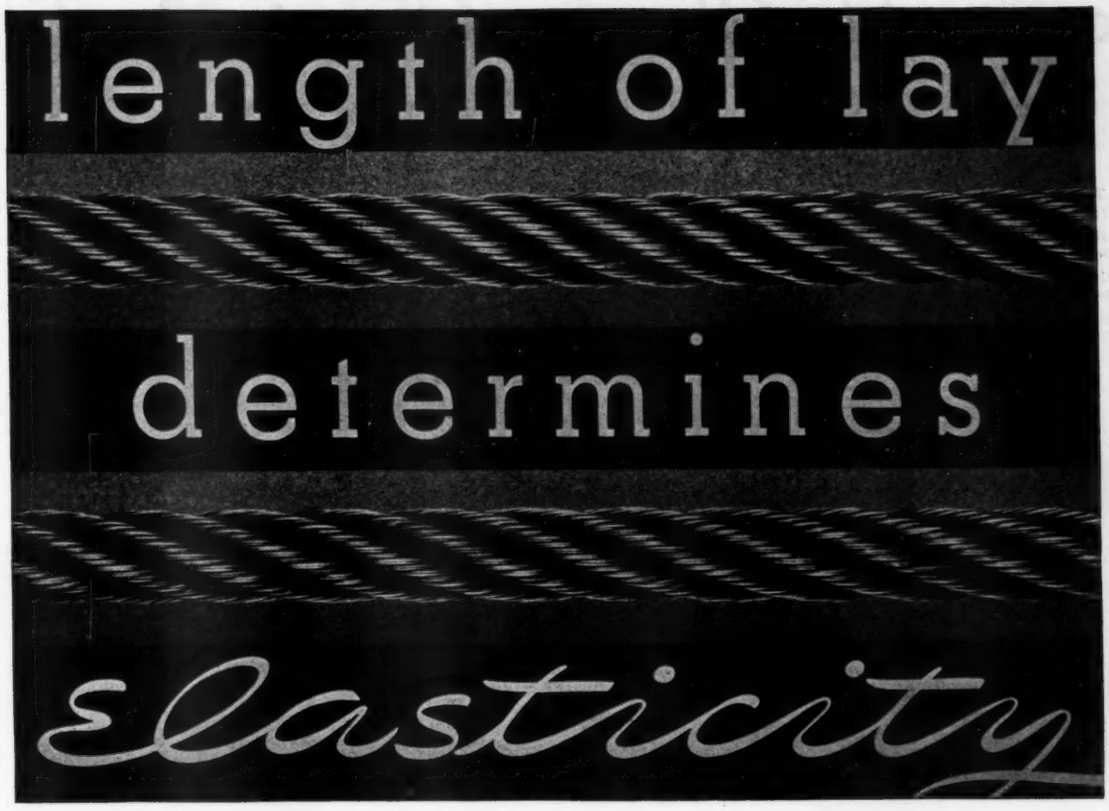
Actual production from Rodessa during the week ended May 28 was 68,255 bbls. per day, meaning that if the June proration schedule is fully observed and enforced, the field will be curtailed approximately 18,000 bbls. at the start of the month.

Withdrawal of an average of 16,979 bbls. per day from storage in Rodessa together with current production boosted actual distribution of crude from the bi-state district to 85,234 bbls. daily. Six major pipe line companies practically divided their runs of 82,255 bbls. per day between Louisiana and Texas destinations. Standard Pipe Line Co.'s 8-inch trunk to Baton Rouge handled 34,202 bbls. per day; Magnolia's 8-inch to Beaumont moved 15,561 bbls.; East Texas Pipe Line Co. ran 14,029 bbls. daily to Longview; Gulf Pipe Line Co. handled 12,322 bbls. daily to Port Arthur; Arkansas-Louisiana Pipe Line Co. ran 5,786 bbls. daily to Shreveport and Texas Pipe Line Co. handled 355 bbls. through facilities terminating at Port Arthur. Tankcar shipments from Rodessa averaged only 146 bbls. per day during the past week and local refineries consumed 2,833 bbls. daily average.

The 71,374 bbls. of Rodessa crude oil produced under a "special order" from the Louisiana Conservation Department from Pelican Oil & Gasoline Co. Sexton lease and now held in storage at Nettleton station in Gregg County and at Sour Lake on the Gulf Coast was permanently impounded last week by Federal District Judge Randolph Bryant.

The Texas Railroad Commission hearing on the Rodessa pool called at Marshall, Tex., June 12, probably will become a formality due to action expected earlier to meet the lower per well figure ordered for the Louisiana side. With approximately 4,000 acres of proven oil land on the Caddo Parish, Louisiana, side, the area is gradually nearing a drilling density of a well to each 20 acres.

Conversely, the Cass County, Texas, side has only 12 wells and virtually as much proven or indicated productive acreage. Reduction of the per well allowable probably will have tendency to discourage the close spacing of wells in Cass County.



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National Oil Scouts Association Hears Proposal to Change Check Meetings

By L. E. BREDBERG

DALLAS, Tex., June 2.—The National Oil Scouts Association of America, comprised of scouts from Texas, Louisiana, Arkansas, New Mexico and Oklahoma, opened its thirteenth annual convention at the Baker Hotel in Dallas, May 29. Jesse L. Bullard, Shell Petroleum Corp., San Antonio, president of the association, returning the thanks of the scouts to Mayor Sergeant and the city for its welcome.

CLAUDE STRAHAN

At the opening session, Paul W. Pitzer of Brekenridge, independent operator and vice president, Chemical Process Co., talked on "Acidizing of Wells"; William L. Horner, Core Laboratories, Inc., Dallas, on "Core Analyses as a Control to Well Completion" and C. P. Parsons, vice president, Halliburton Oil Well Cementing Co., showed motion pictures of the Gulf Coast fields in natural colors and the Fitts pool in Oklahoma.

Mr. Pitzer stated that over 14,000,000 gallons of acid had been used in treating wells in the Mid-Continent, the cost running in the neighborhood of $3,000,000 with the actual increase in production running nearly 11,000,000 bbls. of oil, the majority still producing at greatly increased rates.

The films shown by Mr. Parsons pictured old producing fields, such as Spindletop and Goose Creek, along with new fields where the most modern equipment is used, including barges on which derricks, rigs and boilers and other drilling equipment, and even living quarters are erected, and cementing barges, made especially for moving by water from one well to another.

The president of the association, Mr. Bullard, and others, proposed and discussed changes to make a better association. Mr. Bullard advised a change in check-meetings, proposing ending such as now held, which require the addition of more scouts by companies now using but one scout to cover many counties and a far larger territory than advisable. Boys just out of school or offices, who have not had field experience, he did not consider the best to obtain information on wells, being inexperienced on drilling wells and what is necessary in a good scouting job, they can be told anything by the crew on the derrick floor. Information obtained by scouts is used in many ways by companies, and if the information is not obtained by experienced men it cannot be relied upon and the companies using inexperienced men stand to lose in the long run. Scouts have been known to inform their companies in time so lease and royalty purchases could be made by which the companies have realized millions of dollars, and such information is what experienced scouts want to give to their companies, consequently the association is desirous of seeing more experienced men placed in the field.

The newly elected officers for 1936 are: Claude Strahan, Atlantic Oil Producing Co., Shreveport, La., president; Maurice (Dutch) Miesse, Phillips Petroleum Co., Shawnee, Okla., first vice president; Paul A. Barenkamp, Sun Oil Co., Tyler, Tex., second vice president; Howard Boyd, chief scout, Magnolia Petroleum Co., Dallas, Tex., was reelected secretary-treasurer and Harry Leyendecker, chief scout, Tide Water Oil Co., Houston, Tex., named chairman of the executive committee, John H. Langston, chief scout, Sun Oil Co., Dallas, was chairman of the arrangements committee for the convention.

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OBITUARY

CONRAD SCHLUMBERGER, 58, died May 9 in Stockholm of a cerebral hemorrhage, after a very short illness. Born in Alsace, he graduated in 1904 as a state mining engineer and in 1906 was appointed professor of physics at the School of Mines at St. Etienne, and in 1907 at the Ecole Superieure des Mines in Paris, to which he returned after war service until he resigned in 1923 to devote himself to the field of applied geophysics. He became interested in the study of the formations traversed by a drill hole, by means of physical measurements actually performed at depth in the drill hole.

CONRAD SCHLUMBERGER

HIRAM R. SPOONER, for many years active in Turner Valley development, died recently at Calgary, Alberta.

JAMES F. BLAKE, 62, general superintendent Sinclair Prairie Pipe Line Co., died Monday

in a Tulsa hospital. He was born in Petroleum Center, Pa., where he studied engineering. He worked in Oil City, Pa., and as a telegraph operator at Bear Creek station, Parker's Landing, Pa., and was for a time associated with his father in the oil business. In 1906 he went to Independence, Kan., as a representative of the National Transit shops as master mechanic for Prairie Pipe Line Co. He was transferred to Tulsa in 1912 and in 1915 was associated with J. R. Manion in forming the Sinclair Pipe Line Co., becoming general superintendent. After the merger with Prairie, he became general superintendent of the combined organizations.

JAMES C. YANCEY, 63, oil operator and geologist of Fort Worth, Tex., died Sunday at a Fort Worth hospital. A native of Carlinville, Ill., he early began the study of structural geology and produced a large percentage of maps of oil fields in California and Texas. In 1908 he formed the Refining & Producing Co. of California, moving to Texas in 1913, settling at Wichita Falls.

L. O. BLOCKER, 53, Breckenridge, Tex., oil man died at Harlingen, Tex., Wednesday evening.

Oil News from Foreign Lands

French Refinery Enterprise

Under the supervision of the French government, some private enterprises have been authorized to build up in France sufficient refinery capacity to make that nation self-supporting in the production of the many petroleum products according to Rene Berg, officially delegated at the ninth International Petroleum Exposition, at Tulsa, as representative of the French Association of Petroleum Technicians and of the Committee of the Second World Petroleum Congress of 1937. M. Berg. and his partner, M. J. N. Chauchat, spent some time in Tulsa and plan to spend about another month in this country gathering information about United States methods and equipment which are now in greater demand in his country.

FRANCE

There are seven refining companies in France operating 17 refineries. Several receive their crude oil from Iraq while the others run on oil largely purchased through American oil companies.

The French government has helped the Compagnie Francaise de Raffinage, which operates two plants at Gonfreville l'Orcher and Martigues (B. du-Rh). The combined capacity of these two plants is about 26,000 bbls. daily with cracking units suitable for handling about 14,700 bbls. per day.

Exploratory work in search of new oil fields in France is limited at this time, Mr. Berg explained, although new wells are being drilled at Pechelbronn in Bas-Rhin and some oil is still being produced by the oil mining methods. Work in French colonies is being carried on actively and it is hoped to develop a substantial supply of oil in Morocco within a few years. Algeria is another French province in which considerable work is being carried on now searching for oil.

In addition to the refineries for handling crude oil there are three hydrogenation plants in France experimenting with soft coal. These plants are of the pilot type of which two are located in the north of France. These plants are converting coals to various products for use in the automobile and for lubrication of machinery. There are also three plants treating bituminous shales and converting them directly into light fractions. Furthermore, butane and propane gases are produced by the oil refineries and shipped in steel containers into the rural districts of France and to the French colonies in Africa.

At present the refineries within France do not make sufficient gasoline, diesel fuel oil or lubricants to supply French demand, so these products as well as crude oil are shipped into the country but it is hoped in time to eliminate this necessity and bring the plant capacities up to the point where all of the needs of France can be supplied through these domestic plants and the hydrogenation units. To accomplish this M. Berg stated his country was looking to the United States to supply methods and equipment and the new developments here are being followed by the refinery technicians very closely.

Russian Exports Decrease

Exports of the principal petroleum products from Russia in January amounted to 1,740,952 bbls., compared with 2,067,037 bbls. in the same month of 1935, a decrease of 326,085 bbls., or approximately 15 per cent. Shipments of all products except gas oil and diesel oil showed a decline. The following table shows exports of petroleum products from Russia in January, 1936 and January, 1935 (in approximate barrels):

U.S.S.R.

	Jan., 1936	Jan., 1935
Gasoline	354,404	458,619
Kerosene	200,333	258,209
Lubricating oil	88,506	135,030
Diesel oil	92,351	31,654
Gas oil	341,068	322,420
Fuel oil	673,085	861,042
Crude oil	105	63
Total	1,740,952	2,067,037

In addition, exports of asphalt in January amounted to 393 tons, against 2,390 tons in January, 1935.

British Oil Imports

Imports of crude oil and petroleum products into the United Kingdom in April totaled 256,115,000 imperial gallons, compared with 280,773,000 gallons in April, 1935, a decrease of 24,658,000 gallons, or approximately 8.7 per cent. Crude oil imports were 38,215,000 gallons, against 40,516,000 gallons in April last year, a decline of 2,301,000 gallons.

UNITED KINGDOM

Imports for the four months ended April 30, 1936, amounted to 933,289,000 gallons, compared with 921,413,000 gallons in the same period of 1935, an increase of 11,876,000 gallons, or approximately 1.2 per cent.

The following table shows imports by products for April, 1936, and April, 1935 (in imperial gallons):

	April, 1936	April, 1935
Crude oil	38,215,000	40,516,000
Gasoline	113,494,000	143,254,000
Kerosene	18,601,000	16,988,000
Lubricating oil	13,285,000	14,011,000
Gas oil	14,277,000	6,802,000
Fuel oil	55,427,000	57,802,000
Miscellaneous	2,816,000	1,400,000
Total	256,115,000	280,773,000

Imports for the first four months of 1936 compare with those for the same period of 1935 as follows (figures in imperial gallons):

	First four months	
	1936	1935
Crude oil	152,881,000	149,752,000
Gasoline	426,428,000	419,284,000
Kerosene	73,406,000	73,147,000
Lubricating oil	42,113,000	33,371,000
Gas oil	43,146,000	40,102,000
Fuel oil	189,118,000	198,698,000
Miscellaneous	6,197,000	7,059,000
Total	933,289,000	921,413,000

Exceptions to the declining trend of imports in April of the current year were furnished by kerosene, gas oil and miscellaneous products. There was a decrease in lubricating oil imports in April, as compared with April of last year, although the imports of this product for the first four months of 1936, amounting to 42,113,000 imperial gallons, showed a gain of 8,742,000 gallons, or approximately 26.1 per cent, over the first four months of 1935.

Report Oil Field in Chile

Reports from Santiago, Chile, state that the government of Chanaral has informed the Minister of Economics that an oil field has been discovered at Lago Pedernales.

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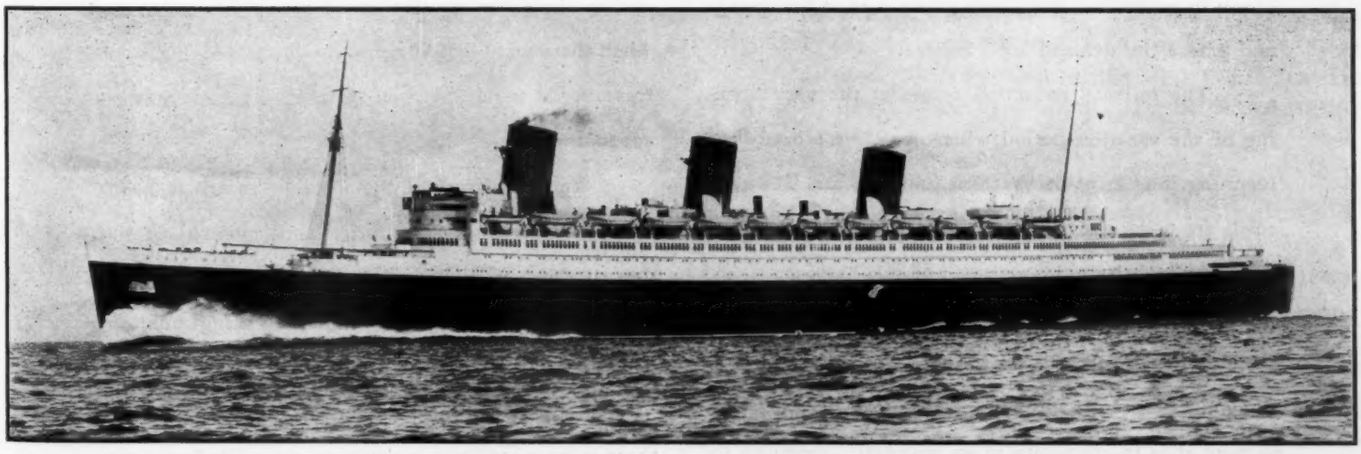

The British transatlantic liner "Queen Mary," largest ship afloat, which arrived in New York on her maiden trip Monday, will be one of the oil industry's best customers. The fuel oil requirements, despite the increased efficiency of her boilers, will total at least 60,000 bbls. on a round trip. This 2,520,000 gallons of liquid petroleum is equal to the gasoline demand of 4,500 ordinary motor cars for one year. The fuel oil will be supplied by the Standard Oil Co. of New Jersey in this country and a subsidiary of the company in England. The side bunkers of the ship have a total fuel oil capacity of 45,000 bbls.

All the emergency equipment also uses petroleum products. Two gasoline-driven engines connected to a generating plant will supply emergency electric power and light. Each of the 24 massive lifeboats, each capable of carrying 145 passengers, is equipped with diesel engines. The ship will consume several hundred gallons of lubricants of various grades on each trip.

the OIL AND GAS JOURNAL

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A Challenge To Be Met

The reduction of passenger rates on the eastern railroads following similar action by western roads some time ago is of immediate importance to the oil industry. It makes them not only sharply competitive with the passenger car and bus but it does so at a moment when the hazards of highway travel threaten the use of automotive transportation.

Even the most experienced drivers sense the peril of the road, recognizing the risk of some other person's irresponsibility or inexperience. The daily toll on the streets and highways, taken with the economic attraction offered by the railroads that it is just as cheap to go by rail, may leave many cars in the garage and affect the demand for gasoline.

The railroad reduction comes at the very opening of the vacation period when usually motorists are planning long trips or vacation tours by car. The railroads are using every advertising art to put their alternative before the public.

The oil industry and the automotive industry cannot sit back and wait for the effect of this challenge. They must hasten to meet it and the most effective way to meet it is to cooperate in an energetic campaign to promote safety on the highways. Several companies are already doing it.

Much could be accomplished by enlisting the aid of station operators in advising motorists of defective tires or brakes or other defects that are the cause of many accidents. This would be a service to the public, to the industry and to the station operators themselves.

A great many accidents are caused by dangerous conditions on the roads, dangers that could be removed by wider and straighter highways. Enough money is being raised by taxation to remove every danger spot from the highway map if the revenue was spent on the construction of new roads and the proper maintenance of existing roads instead of being diverted to other uses.

Use the gasoline tax to make the highways safe as they should be. Roads that were thought good enough when there were half as many cars on the highways and traveling at much less speed can not be expected to be adequate today.

Another effect of the accident record is seen in the steady increase in insurance rates, a penalty directly due to those who disregard the rights and safety of others which should arouse the motoring public to support every effort for highway safety.

Aside from the problem of increasing taxation there is no more serious threat to the oil industry than the perils of the highway and their potential effect, with the new railroad competition, upon the demand for motor fuel and oil.

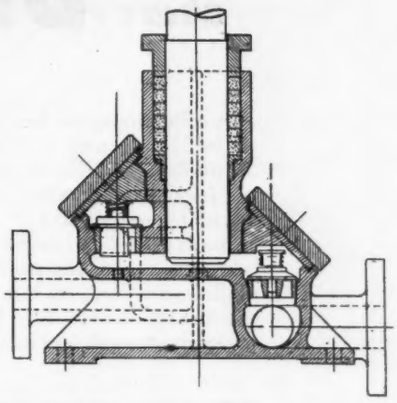
Note the features of this new patented construction

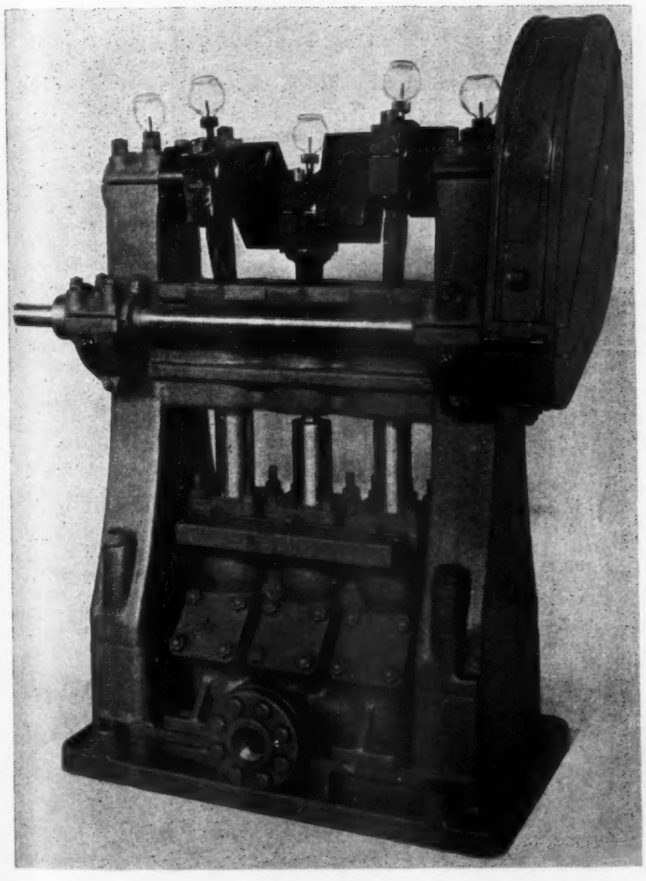
TRANSIT VERTICAL TRIPLEX SINGLE ACTING POWER PUMP "ACE" TYPE LIQUID END

A — ACCESSIBILITY

C — CLOSE CLEARANCE

E — EFFICIENCY





This new design has opened a new field for vertical triplex pumps. With clearances very materially reduced, these efficient units can now be used in installations where a suction lift is part of the job, or where more volatile liquids are to be handled.

Note particularly the design of the liquid end. Clearances are reduced to a minimum by locating the suction and discharge valves very close to the cylinder bore, and using plungers designed to extend downward into the liquid passages.

All valve seats are in a horizontal position, the valves themselves operating vertically. This insures perfect seating and an even distribution of wear.

Valve covers are inclined 45°. By removing these covers the valves are exposed for inspection or repair. Standard valves and seats are used for both suction and discharge and these are interchangeable with each other.

The main frame is a one-piece casting of iron, solidly bolted to cast iron base plate, as illustrated. The liquid end is a separate casting; of iron for working pressures up to 500 lbs., and of steel for pressures up to 600 lbs. Either drop forged steel wing guided or disc valves may be ordered.

NATIONAL TRANSIT PUMP AND MACHINE CO.

OIL CITY, PENNSYLVANIA

NEW YORK - PHILADELPHIA - CHICAGO - CLEVELAND - PITTSBURGH - LOS ANGELES - HOUSTON - TULSA

Frick-Reid Supply Corporation
108 N. Trenton Ave.,
Tulsa, Oklahoma

Pratt-Gilbert Company
Phoenix,
Arizona

The Republic Supply Company of California
2122 East Seventh Street,
Los Angeles, California

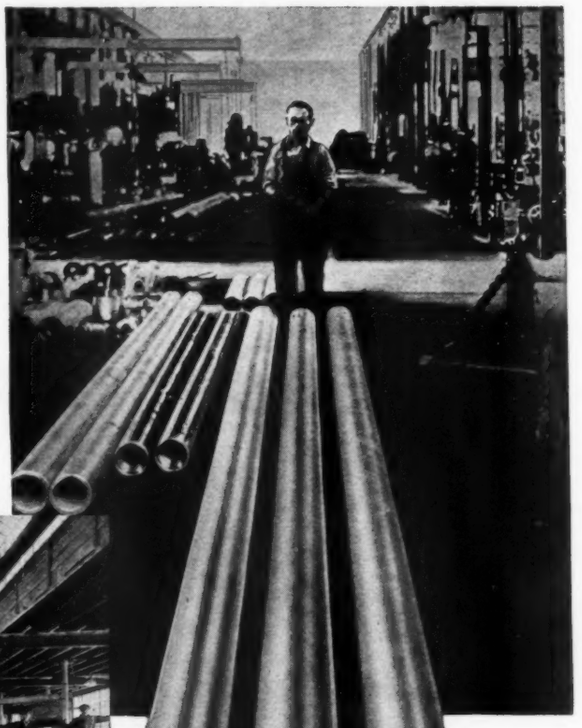
Reeves & Skinner Machinery Company
2211 Olive Street,
St. Louis, Missouri

F. C. Richmond Machinery Company
320-326 West Second South St.,
Salt Lake City, Utah

Standard Supply and Hardware Company
822-838 Tchoupitoulas St.,
New Orleans, Louisiana

Oil well drillers trust to NICKEL

for their BIG *jobs*



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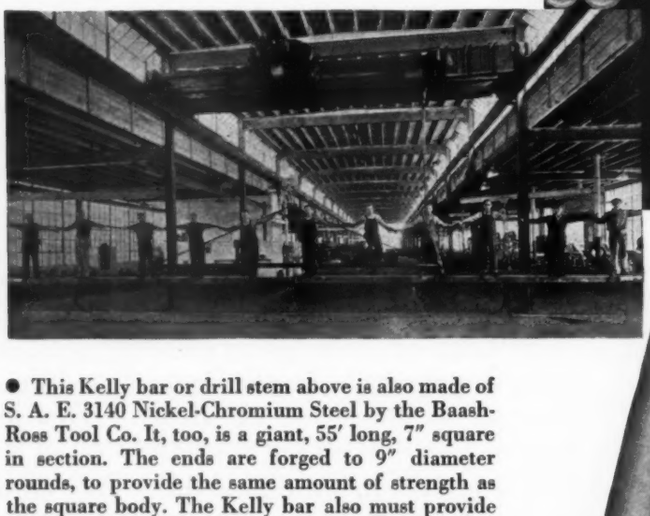

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By F. J. SANSONE
Carl H. Pforzheimer & Co., New York

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These companies representing almost two-thirds of the American petroleum industry reported for the year ended December 31, 1935, net income after depreciation, depletion, amortization, interest, taxes, etc., of $258,542,320 compared with $158,282,145 in 1934. Combined gross operating income of the group last year was $3,754,036,619 compared with $3,521,692,015 in the preceding year.

The marked improvement in earnings in the face of the moderate increase in sales reflects the more profitable level of operations which prevailed last year as a result of higher average gasoline prices, more stable markets and increased consumption of petroleum products. These factors combined to make 1935 the most profitable year for the petroleum industry since 1930.

The extent of the betterment last year is evidenced by the fact that of the 30 companies included in this compilation all, with the exception of one of the smaller units, reported profits. This is in contrast to the experience of recent years when many companies reported small earnings or deficits. Barnsdall Corp., Pure Oil Co., Shell Union Oil Co., Standard Oil Co. of Ohio and Texas Pacific Coal & Oil Co. are the five companies whose profitable operations last year contrasted with deficits in 1934, while Standard Oil Co. of Nebraska, although reporting a much smaller deficit in 1935 than in 1934 was the only company to sustain losses in both years.

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These 30 companies charged against earnings in 1935 a total of $438,240,944 for depreciation, depletion, amortization, etc., compared with $412,525,431 for such charges in the preceding year. In view of the fact that several companies have changed their method of computing depreciation with resultant lower rates, while others which formerly charged against income all intangible drilling costs adopted the policy of capitalizing such expenses, the indicated increase reflects the extensive development work carried on by the producing branch of the oil industry last year.

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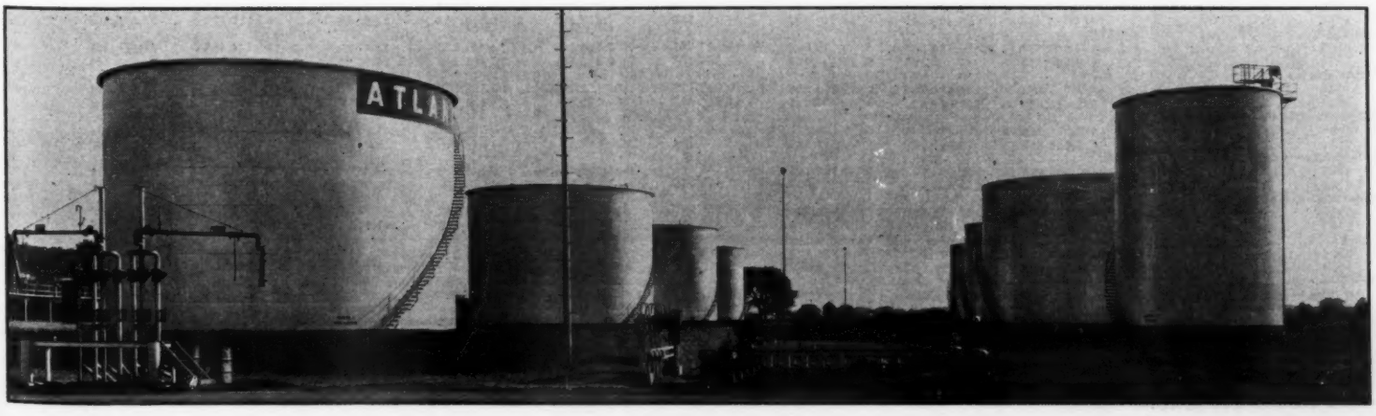

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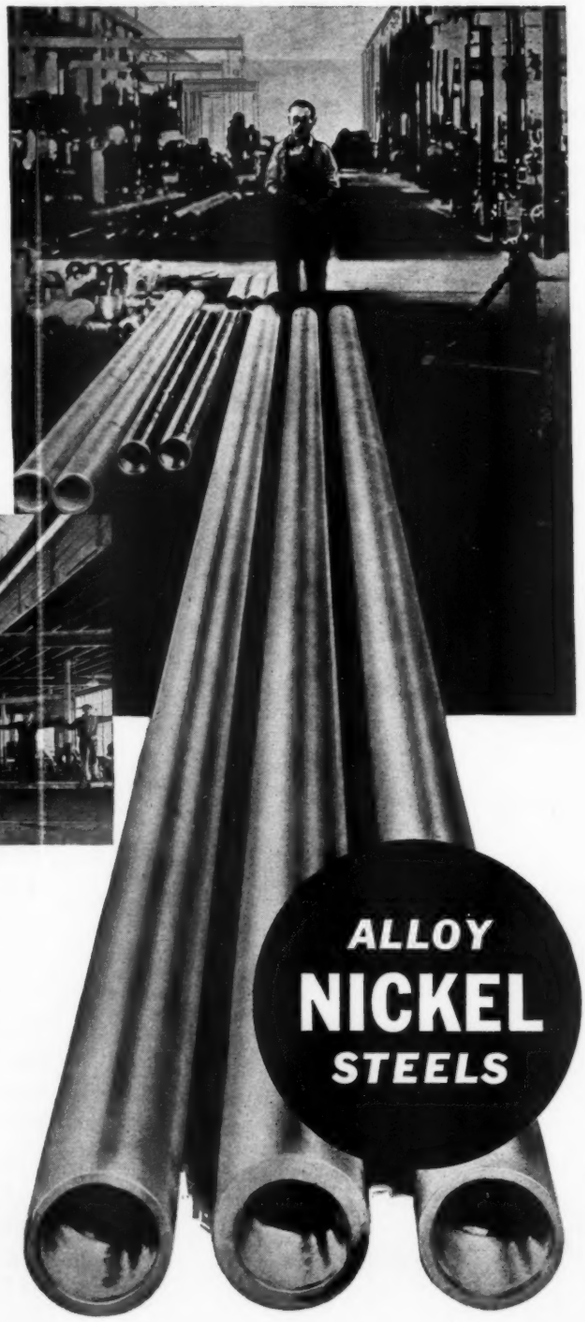

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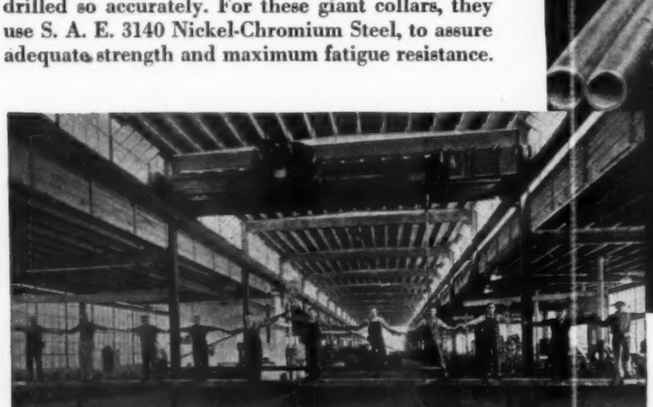

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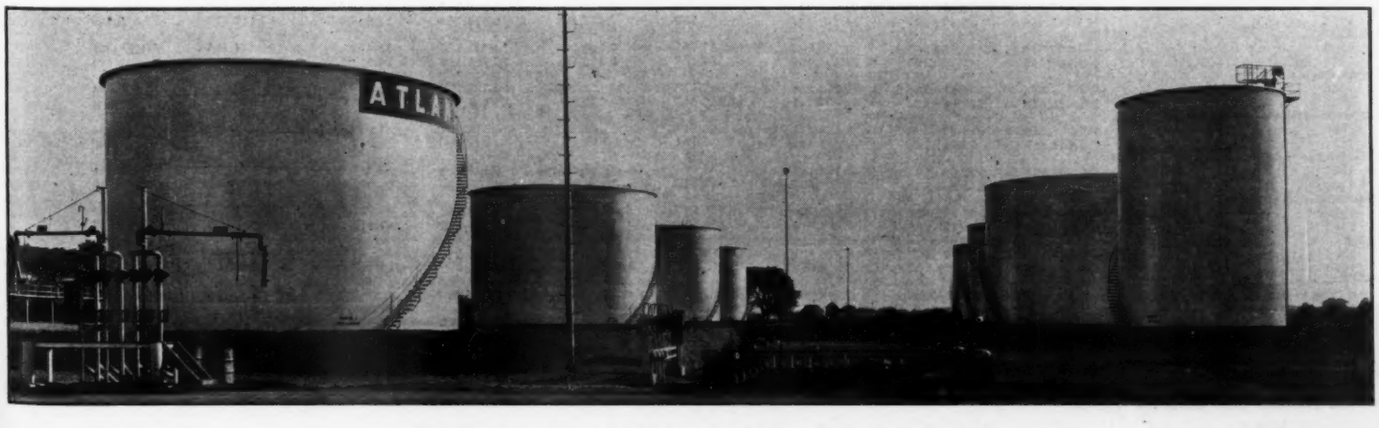

financed by private and bank loans carrying interest rates ranging from 2 to 3¾ per cent. Since practically all of these loans have serial maturities further reduction of long term debt may be anticipated in the next few years.

After giving effect to the refinancing that took place last year total funded and long term debt of 30 major oil companies aggregated $585,111,138 on December 31, 1935, compared with $663,562,876 on December 31, 1934, or a net reduction of $78,451,738. This decrease when added to that effected during the preceding four years brings the total reduction in long term debt of these companies since 1930 to approximately $420,000,000.

Total assets of these 30 companies at the close of 1935 aggregated $7,115,544,760 or about the same as at the end of 1934 when assets totaled $7,114,807,107. Fixed assets on December 31, 1935, amounted to $4,218,194,309 after reserves for depreciation, depletion, etc., amounting to $4,488,371,332. This compares with net fixed assets of $4,214,916,276 and reserves of $4,335,692,235 at the end of 1934. Permanent investments, mainly stocks of or advances to affiliated companies declined to $665,979,455 from $707,211,408.

Combined current assets of the group on December 31, 1935, amounted to $2,037,419,709 and included $671,487,752 in cash and marketable securities, which alone exceeded total current liabilities of $531,967,527. The ratio of current as-

COMPARISON OF ASSETS, LIABILITIES, CURRENT POSITION,

	ASSETS								LIABILITIES	
	Properties, plant and equipment	Reserves for depreciation, depletion, etc.	Net fixed assets	Permanent investments and advances	Cash and marketable securities	Inventories, crude and refined oil	Total current assets	Total assets	Common stock	Preferred stock
Amerada Corp.:										
1935	$38,211,332	$28,983,743	$9,227,589	$613,592	$3,534,459	$521,917	$5,840,282	$18,472,064	$13,581,376	.....
1934	38,228,575	29,262,283	8,966,292	541,693	3,693,776	504,771	5,544,732	17,861,780	13,581,376	.....
Atlantic Refining Co.:										
1935	196,834,131	85,676,307	111,157,824	6,705,718	11,106,042	19,297,903	44,660,783	163,037,816	66,622,525	.....
1934	191,199,715	81,460,401	109,739,314	7,422,600	11,052,289	21,227,495	46,520,158	164,198,838	66,622,550	.....
Barnsdall Corp.:										
1935[1]	27,318,877	19,659,736	7,659,141	7,876,724	2,308,940	659,953	5,086,897	21,017,840	10,655,450	.....
1934	41,330,763	26,362,398	14,968,365	984,464	638,468	3,359,620	6,324,859	23,242,184	11,027,255	.....
Consolidated Oil Corp.:										
1935	272,733,927	71,768,671	200,965,256	27,433,132	31,504,217	45,467,908	96,627,137	331,070,551	71,094,175	[2]11,051,896
1934	264,281,035	55,878,234	208,402,801	22,657,333	25,498,897	49,718,346	93,706,568	334,016,280	71,094,175	10,184,400
Continental Oil Co.:										
1935	116,021,239	76,195,347	39,825,892	11,718,258	11,468,067	19,748,742	38,259,065	91,747,021	23,692,967	.....
1934	114,373,568	73,726,415	40,647,153	11,619,986	6,260,859	20,224,951	31,466,726	85,872,148	23,692,967	.....
Creole Petroleum Corp.:†										
1935	74,358,519	21,485,384	52,873,135	472,040	948,102	557,404	9,667,900	63,685,417	34,871,780	.....
1934	70,157,865	18,237,776	51,920,089	424,855	322,355	419,312	6,477,451	59,437,657	34,871,780	.....
Gulf Oil Corp.:										
1935	530,840,441	342,082,761	288,757,680	15,096,094	34,338,904	52,140,422	122,103,792	430,245,576	113,452,525	.....
1934	611,977,039	328,900,852	283,076,183	14,257,681	22,517,331	56,089,790	120,382,928	421,984,071	113,452,525	.....
Houston Oil Co. of Texas:										
1935	59,301,522	18,159,567	41,141,955	6,415,372	2,096,967	108,573	3,513,983	51,546,089	27,465,450	[3]8,947,600
1934	58,156,126	17,131,164	41,024,962	6,257,056	1,926,970	156,590	3,390,149	51,288,788	27,465,450	8,947,600
Humble Oil & Refining Co.†										
1935	326,646,822	121,508,033	204,138,789	433,582	10,580,554	19,047,830	48,298,418	253,724,608	175,000,000	.....
1934	306,579,369	113,519,375	193,059,994	818,154	11,075,257	19,897,922	51,942,840	246,377,708	175,000,000	.....
Imperial Oil, Ltd.:†										
1935	120,008,544	66,433,123	53,572,421	55,587,186	39,904,590	25,915,121	79,916,792	192,564,741	77,974,960	.....
1934	118,694,997	60,174,300	58,520,697	59,677,034	37,024,569	25,221,365	75,977,015	199,834,217	77,263,006	.....
Mid-Continent Petroleum Corp.:										
1935	88,405,661	51,743,063	36,662,598	3,478,737	7,759,551	3,236,302	19,915,938	60,630,324	18,579,120	.....
1934	89,001,332	52,053,814	36,947,518	3,560,671	5,425,785	3,256,998	17,657,316	58,706,875	18,579,120	.....
Ohio Oil Co.:										
1935	246,938,690	153,614,537	93,314,153	7,458,474	11,781,772	21,067,319	38,493,863	139,705,659	59,235,791	54,807,700
1934	[5]245,982,220	150,383,037	[5]95,599,183	7,374,641	10,058,660	21,805,197	37,455,529	174,206,108	100,000,000	58,094,300
Pacific Western Oil Co.:										
1935	18,312,293	9,529,714	9,282,579	4,890,646	404,417	28,134	892,265	15,431,990	10,000,000	.....
1934	33,074,941	10,037,975	23,036,966	2,968,145	360,692	27,961	872,825	27,267,676	10,000,000	.....
Phillips Petroleum Co.:										
1935	279,107,647	141,849,026	137,258,621	2,434,319	8,249,122	16,407,882	33,512,617	174,487,773	119,955,533	.....
1934	273,617,412	136,624,786	136,992,626	2,099,434	6,160,012	14,506,680	29,022,986	169,464,990	119,955,562	.....
Plymouth Oil Co.:										
1935	15,082,339	8,456,234	6,626,095	3,927,668	559,214	9,974	1,245,301	12,729,545	5,250,000	.....
1934	13,744,361	7,690,460	6,053,901	3,909,984	636,551	4,500	1,255,892	12,115,847	5,250,000	.....
Pure Oil Co.:										
1935	[7]200,512,427	89,758,812	[7]110,753,615	8,343,447	9,486,802	15,554,004	35,161,040	157,183,875	30,383,700	30,000,000
1934	[7]193,806,672	85,350,567	[7]108,456,105	8,071,809	3,534,486	12,117,503	24,537,434	144,589,290	30,383,700	30,000,000
Seaboard Oil Co.:										
1935	8,911,335	3,251,064	5,660,271	3,252,631	1,981,030	32,368	2,767,685	11,857,527	4,977,532	.....
1934	8,411,606	2,888,602	5,523,004	2,610,206	2,271,659	27,769	2,824,474	11,173,150	4,977,532	.....
Shell Union Oil Corp.:										
1935	571,984,965	310,336,671	261,648,294	15,620,341	22,419,465	30,288,847	72,496,845	358,057,793	233,672,821	[8]38,816,600
1934	546,552,676	286,502,212	260,050,464	15,662,253	14,178,642	31,062,306	62,932,492	347,917,872	233,672,821	40,000,000
Skelly Oil Co.:										
1935	95,225,809	61,965,010	33,260,799	2,261,124	2,893,150	3,636,907	9,612,118	46,055,111	[9]15,128,229	[9]6,630,000
1934	89,339,620	58,312,133	31,527,487	2,217,549	2,442,293	3,222,026	8,504,424	43,296,280	25,213,715	6,700,000
Socony-Vacuum Oil Co.:										
1935	892,698,586	492,604,486	400,094,100	131,507,339	70,359,702	117,807,874	245,792,616	789,679,626	475,626,840	.....
1934	883,200,881	482,996,367	400,204,514	137,434,006	58,630,484	121,245,396	238,236,596	788,600,542	475,626,818	.....
South Penn Oil Co.:										
1935	113,843,231	95,736,721	18,106,610	8,126,042	10,738,712	5,318,570	17,636,225	44,248,547	30,000,000	.....
1934	113,633,723	95,005,365	18,628,363	8,533,471	9,051,185	5,749,980	16,714,681	43,907,262	30,000,000	.....
Standard Oil Co. of California:										
1935	703,413,521	257,772,933	445,640,588	47,357,037	22,566,168	32,146,091	75,522,302	579,539,356	327,572,500	.....
1934	692,489,398	255,298,327	437,191,071	33,234,107	31,631,901	35,773,758	89,069,767	569,108,277	327,572,500	.....
Standard Oil Co. of Indiana:										
1935	[9]620,605,932	292,400,181	[9]328,205,751	111,309,011	65,428,443	100,925,796	204,856,735	693,464,620	380,391,942	.....
1934	[9]568,361,935	292,646,252	[9]275,715,683	122,708,085	75,173,480	103,854,255	213,817,165	660,719,402	380,391,942	.....
Standard Oil Co. of Kansas:										
1935	3,478,229	513,008	2,965,221	.....	109,936	6,155	204,886	4,963,480	2,000,000	.....
1934	3,060,217	474,025	2,586,192	.....	17,507	8,030	94,793	4,548,538	2,000,000	.....
Standard Oil Co. of Kentucky:										
1935	32,536,979	13,816,921	18,720,058	.....	11,074,649	4,656,046	18,972,322	38,107,930	26,048,001	.....
1934	34,217,225	15,576,933	18,640,292	.....	13,105,048	4,294,758	20,768,154	39,579,826	26,047,397	.....
Standard Oil Co. of Nebraska:										
1935	5,092,938	2,070,066	3,022,872	.....	1,362,214	845,644	2,399,014	5,435,340	4,570,075	.....
1934	5,126,279	1,962,722	3,163,557	.....	1,369,351	968,755	2,550,044	5,728,585	4,710,075	.....
Standard Oil Co. of New Jersey:										
1935	3,213,855,401	1,193,904,568	[11]1,019,950,833	171,699,247	249,159,955	209,287,625	641,470,026	1,894,914,483	646,402,025	[12].....
1934	2,196,076,141	1,150,147,325	[11]1,045,928,816	225,321,239	227,019,175	204,413,930	608,929,709	1,941,709,974	646,402,025	[12].....
Standard Oil Co. of Ohio:										
1935	56,447,397	22,019,517	34,427,880	5,607,421	6,875,023	5,996,503	15,819,070	56,934,353	18,843,500	12,000,000
1934	56,181,773	20,410,119	35,771,654	4,413,880	4,514,238	6,411,358	13,560,770	55,117,493	18,843,500	12,000,000
Sun Oil Co.:										
1935	113,227,084	50,539,090	62,787,994	11,857,767	7,740,395	14,019,803	30,153,140	107,141,468	68,966,570	10,000,000
1934	109,804,688	47,259,205	62,545,482	12,130,445	5,346,185	13,701,143	26,912,544	103,589,545	64,650,522	10,000,000
Texas Corp.:										
1935	558,055,094	300,980,806	257,074,288	39,822,177	36,121,798	88,793,156	160,789,624	473,776,967	233,501,725	.....
1934	565,319,083	300,586,022	264,733,011	39,367,445	30,578,178	88,191,160	151,840,852	474,842,418	233,744,325	.....
Texas Pacific Coal & Oil Co.:										
1935	23,926,266	16,280,294	7,645,970	25,849	732,752	216,327	1,752,812	9,573,873	3,882,366	.....
1934	27,100,869	19,261,342	7,839,527	33,348	568,436	444,817	1,941,807	10,041,421	3,882,366	.....
Tide Water Associated Oil Co.:										
1935	271,269,395	153,403,137	117,866,258	12,369,596	13,495,505	25,518,199	49,957,378	182,830,736	56,423,420	62,622,100
1934	256,772,992	143,546,898	113,226,094	11,947,875	13,094,465	26,360,485	50,887,908	179,437,465	56,313,410	[13]63,622,200
Union Oil Co. of California:										
1935	231,842,873	123,299,339	108,543,534	471,201	12,900,391	20,916,166	41,903,948	151,657,423	109,651,750	.....
1934	225,685,706	117,729,696	107,956,010	362,102	10,570,555	22,615,432	41,615,270	150,694,182	109,651,750	.....
TOTAL:										
1935	$8,706,565,641	$4,488,371,332	$4,218,194,309	$665,979,455	$671,487,752	$859,752,111	$2,037,419,709	$7,115,544,760	$3,212,627,907	$234,875,196
1934	8,550,608,511	4,335,692,235	4,214,916,276	707,211,408	597,326,557	876,845,810	1,969,349,552	7,114,807,107	3,259,805,873	239,549,500

* Per share common earnings are based on number of shares actually outstanding, and computed after deducting preferred dividends paid or accumulated during the year.
† Figures for Creole Petroleum, Humble Oil & Refining and Imperial Oil are not included in totals since they are included in consolidated reports of the Standard Oil Co. of New Jersey.
‡ Represents actual number of shares outstanding and does not include reacquired or treasury stock where such figures are available.
‖ Deficit or loss.
*** Not available from published reports.

[1] Does not include operations of refining and marketing divisions for the period from June 1 to December 31, 1935, which were segregated May 31, 1935.
[2] Reduced to $5,669,040 since the close of 1935.
[3] Includes nonrecurring profits of $1,564,608.
[4] Includes nonrecurring income of $3,305,336.
[5] Excludes $28,190,399 good will, franchises, etc., written off during 1935.
[6] Excess of current liabilities over current assets.
[7] Includes contracts, rights, patents, trade-marks, etc., amounting to $19,731,718 in 1935 and $19,760,816 in 1934.

sets to current liabilities at the close of 1935 was 3.8 compared with 4.1 a year before.

The value of crude and refined oil inventories declined approximately $17,000,000 to a total of $859,752,111 on December 31, 1935. Since the value of refined oil was generally higher at the end of 1935 than at the close of 1934 while average crude oil prices were practically unchanged, the decrease in valuation reflects a lower volume of inventory.

Total common stock capitalization of the group amounted to $3,212,627,907 in 1935 compared with $3,259,805,878. Of the 30 companies, 9 had outstanding preferred stock totaling $234,875,890, or slightly less than at the end of the preceding year.

The combined surplus accounts at December 31, 1935, showed total earned surplus of $1,020,461,013 and capital surplus of $888,436,162, compared with earned surplus of $933,886,807 and capital surplus of $877,720,723.

The accompanying table shows the comparative assets, liabilities, financial condition, capitalization and earnings of the 30 oil companies used in this study, together with figures for Imperial Oil, Ltd., Creole Petroleum Corp. and Humble Oil & Refining Co. Since these three subsidiaries of Standard of New Jersey are included in the latter's consolidated reports, their figures are indirectly reflected in the composits of the 30 companies.

CAPITAL AND EARNINGS OF MAJOR OIL COMPANIES IN 1935

	LIABILITIES					INCOME ACCOUNT				
	Funded and/or other long term debt	Earned surplus	Capital surplus	Total current liabilities	Indicated net working capital	Gross operating income	Depreciation, depletion, etc.	Net income	Net income per common share[a]	Common shares outstanding[‡]
Amerada Corp.:										
1935	.....	$3,826,392	.....	$831,615	5,008,667	8,696,221	4,357,322	1,797,613	$2.28	788,675
1934	.....	3,606,129	.....	448,059	5,096,673	7,441,233	3,003,614	1,736,420	2.20	(No par)
Atlantic Refining Co.:										
1935	$14,023,622	55,499,234	$10,118,153	8,148,679	36,512,104	101,525,075	10,811,199	3,970,598	1.49	2,664,901
1934	14,024,734	56,673,672	10,118,150	8,559,315	37,960,843	96,117,941	10,578,767	5,512,106	2.07	($25 par)
Barnsdall Corp.:										
1935	.....	864,452	6,391,818	2,934,117	2,152,780	12,698,134	3,438,014	741,136	0.35	2,131,090
1934	318,511	[3]3,819,164	12,915,867	2,605,495	3,719,364	18,035,749	3,497,155	[1]1,029,447	[1]0.47	($5 par)
Consolidated Oil Corp.:										
1935	40,181,928	14,956,117	165,584,086	18,249,697	78,377,440	187,770,102	20,461,500	11,306,905	0.74	13,983,287
1934	47,343,016	9,391,802	166,007,239	18,607,190	75,099,378	168,425,582	19,180,523	553,282	[2]0.02	(No par)
Continental Oil Co.:										
1935	.....	9,448,597	47,431,530	7,104,422	31,154,642	69,501,248	9,032,683	[3]8,813,561	1.88	4,682,663
1934	.....	4,831,496	46,949,207	6,076,387	25,390,339	65,721,348	6,815,972	4,865,358	1.03	($5 par)
Creole Petroleum Corp.:										
1935	.....	4,094,996	23,262,913	1,437,922	8,229,978	20,044,553	3,045,318	5,509,067	0.79	6,974,356
1934	.....	[4]605,247	23,262,913	1,303,011	5,174,440	14,831,960	4,413,261	5,315,254	0.76	($5 par)
Gulf Oil Corp.:										
1935	87,166,000	181,902,993	17,146,573	25,693,168	96,410,624	196,345,664	29,236,725	10,551,720	2.33	4,538,101
1934	91,629,847	172,590,920	17,146,573	22,767,922	97,615,006	181,132,871	31,192,196	[2]2,811,183	0.62	($25 par)
Houston Oil Co. of Texas:										
1935	3,689,500	5,552,787	.....	730,752	2,783,231	6,456,976	1,591,605	837,639	0.27	1,098,618
1934	9,353,500	4,836,988	.....	606,350	2,784,899	5,776,279	2,126,784	216,990	$0.29	($25 par)
Humble Oil & Refining Co.:										
1935	487,610	53,026,962	472,313	19,295,672	29,002,746	132,250,917	21,746,587	23,966,326	2.67	8,985,662
1934	6,831,050	38,078,401	.....	20,362,636	31,580,204	129,296,467	19,594,340	21,989,954	2.64	(No par)
Imperial Oil, Ltd.:										
1935	.....	73,947,084	15,264,192	7,309,638	72,607,154	***	7,243,141	[3][4]25,229,850	0.94	26,965,078
1934	.....	82,414,512	15,264,192	6,921,797	69,055,218	***	6,985,593	[3]25,771,653	0.96	(No par)
Mid-Continent Petroleum Corp.:										
1935	.....	14,563,421	23,747,670	2,783,568	17,132,370	34,277,667	3,995,181	2,417,176	1.31	1,867,912
1934	.....	13,123,889	23,769,760	2,523,973	15,133,343	29,731,060	4,114,051	828,093	0.45	($10 par)
Ohio Oil Co.:										
1935	.....	7,482,973	10,432,351	6,238,427	32,155,436	45,627,101	9,816,031	5,488,268	0.33	6,563,377
1934	.....	10,789,515	.....	3,714,548	33,740,981	42,896,319	8,281,186	5,411,924	0.32	(No par)
Pacific Western Oil Co.:										
1935	.....	818,109	3,416,500	973,683	[5]81,413	3,523,319	1,094,675	663,532	0.66	1,000,000
1934	10,597,500	3,316,729	2,780,650	380,415	492,410	4,213,841	1,152,380	631,833	0.63	(No par)
Phillips Petroleum Co.:										
1935	20,945,221	21,954,037	.....	10,062,351	22,450,266	92,748,873	15,306,042	13,421,703	3.23	4,152,836
1934	26,393,309	13,721,113	.....	7,421,751	21,601,235	77,519,908	15,223,927	5,757,309	1.39	(No par)
Plymouth Oil Co.:										
1935	915,000	3,617,036	452,502	896,146	349,155	3,581,925	965,873	736,057	0.70	1,050,000
1934	500,000	3,172,781	452,502	836,497	419,395	3,612,852	1,051,766	670,261	0.64	($5 par)
Pure Oil Co.:										
1935	38,743,113	15,353,429	26,374,741	10,475,753	24,685,287	92,416,785	8,062,498	3,150,027	2.00	2,038,370
1934	29,769,766	8,488,244	26,280,377	12,361,931	12,175,503	79,766,991	6,938,436	[1]884,372	[1]0.97	(No par)
Seaboard Oil Co.:										
1935	.....	1,409,091	434,067	618,568	2,149,117	5,167,313	1,480,398	1,670,847	1.34	1,244,383
1934	.....	982,627	434,067	500,648	2,323,826	4,918,641	1,557,006	1,375,590	1.11	(No par)
Shell Union Oil Corp.:										
1935	50,153,979	3,419,589	.....	31,142,914	41,353,931	202,169,218	33,847,986	6,812,835	0.37	13,070,625
1934	53,581,227	[3]3,435,042	.....	23,863,558	39,068,934	186,707,730	30,985,950	[1]949,111	[1]0.24	(No par)
Skelly Oil Co.:										
1935	8,756,859	1,051,803	8,283,753	3,665,445	5,946,673	29,326,140	5,568,340	2,585,849	2.17	1,008,549
1934	9,615,679	[6]5,868,194	3,122,252	2,662,472	5,841,952	24,615,568	4,616,128	713,577	0.31	($15 par)
Socony-Vacuum Oil Co.:										
1935	74,326,495	32,553,387	113,182,673	58,933,784	186,858,832	472,560,181	42,024,084	[3][22]25,525,892	0.72	31,151,075
1934	85,014,584	23,652,967	114,935,934	54,088,125	184,148,471	469,147,169	39,690,119	24,121,297	0.77	($15 par)
South Penn Oil Co.:										
1935	.....	11,394,371	.....	1,785,015	15,851,210	12,671,011	1,698,813	2,321,357	2.03	1,142,671
1934	.....	10,316,917	.....	1,319,740	15,394,941	11,539,505	1,759,574	1,954,919	1.73	($25 par)
Standard Oil Co. of California:										
1935	5,000,000	44,505,687	167,947,621	12,874,583	62,647,719	134,772,110	23,116,802	18,594,330	1.43	13,014,754
1934	.....	43,785,387	167,947,621	8,948,933	80,120,834	130,985,836	16,937,174	18,327,807	1.41	(No par)
Standard Oil Co. of Indiana:										
1935	10,579,963	107,010,404	146,895,542	33,980,408	170,876,327	293,218,825	25,982,033	30,179,895	1.98	15,215,677
1934	8,413,670	79,388,802	146,878,319	30,927,270	182,889,895	278,180,375	28,695,706	18,949,680	1.25	($25 par)
Standard Oil Co. of Kansas:										
1935	233,333	420,860	1,871,787	432,499	[6]227,613	974,164	395,726	131,748	0.91	145,441
1934	.....	210,950	1,969,500	368,088	[6]273,295	803,459	259,219	366,780	2.50	($10 par)
Standard Oil Co. of Kentucky:										
1935	.....	6,081,666	1,638,444	4,289,819	14,682,503	57,969,815	1,239,592	2,197,809	0.84	2,604,801
1934	.....	[10]9,110,885	.....	4,006,998	16,761,156	54,336,363	973,116	2,599,466	1.00	($10 par)
Standard Oil Co. of Nebraska:										
1935	.....	301,832	346,627	216,805	2,182,209	5,924,321	179,738	$20,920	$0.11	182,803
1934	.....	447,930	261,300	309,280	2,240,764	5,994,593	189,737	$624,314	$3.31	($25 par)
Standard Oil Co. of New Jersey:										
1935	82,772,730	366,859,942	31,268,000	216,132,547	125,337,479	1,076,215,249	118,339,334	[3][22]62,863,193	2.43	25,856,081
1934	141,461,816	368,836,588	80,226,617	201,774,363	407,166,346	1,017,972,537	111,633,588	45,618,960	1.76	($25 par)
Standard Oil Co. of Ohio:										
1935	741,915	10,930,561	4,345,071	4,573,642	11,245,428	44,380,317	2,397,071	2,690,647	2.77	753,740
1934	266,800	8,839,914	4,345,071	4,890,690	8,670,080	42,073,977	2,298,623	[1]1,913,735	[1]3.34	($25 par)
Sun Oil Co.:										
1935	7,287,857	9,512,101	.....	10,109,675	20,043,465	88,524,940	11,134,778	7,100,239	3.20	2,030,988
1934	7,651,950	9,609,319	.....	10,662,080	16,250,464	82,667,367	10,078,161	6,650,464	3.19	(No par)
Texas Corp.:										
1935	93,253,677	56,341,398	46,783,237	35,033,456	125,756,168	300,237,109	29,559,686	17,065,037	1.83	9,340,069
1934	163,600,076	56,402,269	46,830,683	32,468,389	119,372,463	272,618,752	28,941,894	5,545,205	0.59	($25 par)
Texas Pacific Coal & Oil Co.:										
1935	30,000	70,231	141,628	322,905	1,429,907	3,010,178	506,621	23,640	0.03	888,237
1934	32,500	45,590	141,628	846,156	1,095,651	3,734,877	510,992	$248,270	$0.28	($10 par)
Tide Water Associated Oil Co.:										
1935	19,774,425	21,336,760	522,671	16,274,877	33,682,501	107,950,085	14,428,454	7,865,701	0.73	5,642,342
1934	2,504,891	20,620,669	509,286	9,667,408	41,220,500	96,666,725	13,567,421	5,810,657	0.35	(No par)
Union Oil Co. of California:										
1935	21,526,500	10,421,853	3,699,117	6,358,207	35,545,741	63,787,543	8,282,021	5,038,286	1.15	4,386,070
1934	21,489,500	10,215,105	3,699,117	5,638,710	35,976,560	59,937,567	6,674,266	2,902,733	0.66	($25 par)
TOTAL:										
1935	$585,111,138	$1,020,461,013	$888,436,162	$531,967,527	$1,505,452,182	$3,754,036,619	$438,240,944	$258,542,320	....	.....
1934	663,562,876	933,886,807	877,720,723	479,851,641	1,489,497,911	3,521,692,015	412,525,431	158,282,146	....	.....

[a] After deducting nonrecurring charge of $2,864,796 on account of premium and expense on bonds redeemed during 1935.
[b] Excludes excess of cost over book value of investments in acquired subsidiaries and good will, patents, etc., amounting to $37,978,884 in 1935 and $38,080,164 in 1934.
[c] Includes capital surplus.
[d] Does not include patents, copyrights, good will, etc., amounting to $34,569,208 and $36,451,347 in 1935 and 1934, respectively.
[e] Subsidiary preferred and guaranteed stocks held by the public amounted to $89,753,378 in 1935 and $89,770,110 in 1934.
[f] After deducting $5,248,708 undistributed earnings of certain foreign subsidiaries affected by restrictions on the payment of dividends, carried to contingent reserve.
[g] Not including $19,624,600 subsidiary preferred stock which was retired during 1935.
[h] Par value reduced to $15 per share from $25.
[i] Dividends in arrears.
[j] Dividends received from subsidiaries and included in net income exceeded company's proportion of aggregate net profits of subsidiary companies for 1935 by $8,828,893 and by $8,547,053 in 1934.

Precision Gage for Sub-surface Pressure Measurements

By PAUL G. EXLINE
Gulf Research & Development Corp.*

At the present time very little argument need be used to convince the production engineer that a bottom-hole pressure gage is a necessary adjunct to his work. He does have difficulty in specifying the accuracy his gage must have in order to fulfill his requirements. Certainly a great deal of the work now being done does not require an accuracy better than ± 15 pounds per square inch to ± 30 pounds per square inch which can be secured with most of the gages now commercially available. However, with the manufacture of more accurate instruments, their use is

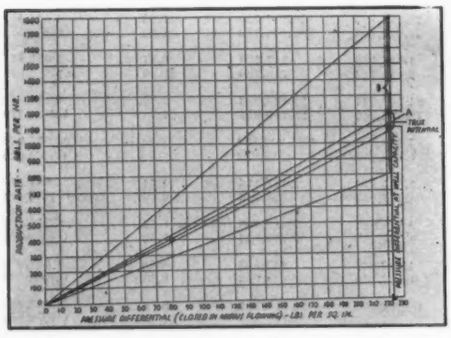

Fig. 1—Demonstration of effect of gage inaccuracy upon potential determination
A—Probable potential range with gage of ±2 lb. per sq. in. accuracy
B—Probable potential range with gage of 15 lb. per sq. in. accuracy

invariably extended to projects requiring the utmost accuracy and which were not feasible with instruments of less accuracy. Even in the less exacting work, there is a distinct psychological advantage in having a gage which can be relied upon day after day to turn in accurate results without elaborate "nursing" or too frequent calibration by the operator.

As an example of the effect the accuracy of a gage may have upon its application, the following discussion of a method of potential determination is given. For simplicity, a straight-line representation of well performance is given, and only a single-point determination is considered. Although a straight-line representation may be characteristic only of East Texas behavior, this method of determining the effect of gage accuracy on potential determination can be extended to non-linear determination and multiple-point data. Consider a well whose bottom-hole pressure drops 79 pounds per square inch. when flowing at the rate of 400 bbls. per hour and when flowing at capacity, or at the rate of 1,130 bbls. per hour, its bottom-hole pressure drops 220 pounds per square inch as shown by the center curve in Figure 1. If both the closed-in and flowing pressures are measured with a gage whose probable error[1] is ±15 pounds per square inch at those pressures, the probable error of difference between the two measurements will be ± 30 pounds per square inch. If the difference is obtained for a production rate of 400 bbls. per hour, the chance of obtaining a value of exactly 79 pounds per square inch is extremely remote. In fact, there is only a 50-50 chance that the value will lie between 49 and 109 pounds per square inch, which would give a potential anywhere from 1,820 to 818 bbls. per hour, or a variation of over 120 per cent. If the measurements had been made with a gage whose probable error was ± 2 pounds per square inch, the corresponding probable range of pressure difference would be from 75 to 83 pounds per square inch, giving potential lying between 1,190 and 1,080 bbls. per hour, or a 10-percent variation. It is evident from this discussion that this method of determining potential is useless if a gage of sufficient accuracy is not available. Much work on this important problem is now being carried out in many fields, and the development of a sufficiently accurate gage will be one of the major factors in hastening the demise of the wasteful open-flow method.

Even more severe requirements are placed upon an instrument used in determining flow-string behavior where small pressure drops with high pressures combine to emphasize gage inaccuracies.

Early in 1930 development of a bottom-hole pressure gage differing in design from any heretofore constructed was undertaken. Efforts were concentrated upon achieving greater accuracy than had heretofore been realized, even in normal test gages. At that time requirements for bottom-hole gages were such that this accuracy was not at all necessary, but it was felt that the future possibilities were such that a demand for a higher accuracy would develop. It was realized that the design must be such that the working parts could be made mechanically sound in order to withstand the handling encountered in production practice. The principle selected was one which would permit rugged mechanical construction, together with high accuracy and simplicity of manufacture. The primary element was a corrugated tubing forming a long bellows. A schematic diagram of the operation is shown in Figure 2. Pressure applied externally to this bellows causes it to shorten its length

***A.P.I.*—Presented Mid-Year meeting of American Petroleum Institute, Tulsa, May 15, 1936.**

By attaching a spring to the closed end, the movement becomes strictly proportional to the pressure applied. Coupling this with means for recording the motion gives essentially a working model of the gage developed.

Some saving in space could have been obtained had the pressure been applied inside the bellows instead of externally. However, with a bellows (loaded internally) having a length to diameter ratio greater than unity, there is a tendency to buckle, just as a long spring will buckle under compression. This would have the effect of introducing considerable friction at the points where the bellows would be forced against the shaft. It was to avoid this that the gage was designed to apply pressure loading external to the primary bellows.

It will be seen that, by choosing a bellows with a sufficiently large effective area, the available energy for operating the recording mechanism becomes very high. The effective area of the bellows is 0.16 square inch. The force developed by an applied pressure of 3,000 pounds per square inch is thus 480 pounds. In order to prevent overstressing the bellows, with a consequent reduction of its life, the total motion was limited to 1 inch. Since the bellows itself acts as a weak spring, the restraining spring was then designed to have a constant equal to 480 pounds per inch less the spring constant of the bellows itself; and it is seen that with this simple construction we have an element which is entirely free of friction or leakage, and at the same time having an extremely high

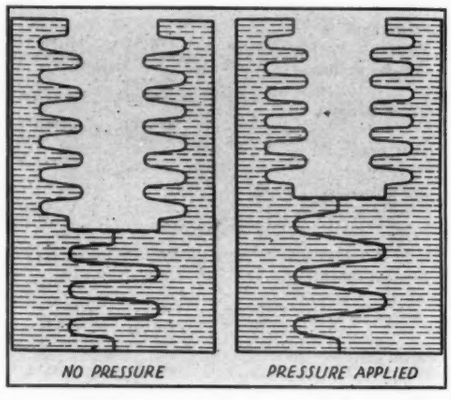

Fig. 2—Schematic diagram of bellows action

energy, which makes any friction arising in the recording mechanism negligible.

Description of the Gage

A sectional view of the gage is shown in Figure 3. The primary bellows is attached at its open end to a header which divides two compartments of the gage. The lower end of the bellows is sealed to a long shaft which extends through the bellows with sufficient clearance to prevent contact with the bellows. A light cantilever spring, which carries the stylus, is attached to the upper end of the shaft. The lower part of the shaft projects through a guide bearing, and is attached to the restraining spring. The space around the primary bellows and spring is filled with a non-corrosive pressure-transmitting fluid, which is prevented from mixing with the well fluid by means of a flexible secondary bellows. This secondary bellows is gold-plated to prevent corrosion. A protecting chamber around this bellows has a tapped hole, permitting access of well fluid and providing means for attaching calibrating instruments.

A stylus retracting lever is provided for raising the stylus from the chart surface when the recording unit is removed. During transportation, with the recording unit carried separately, the stylus is held so that it cannot vibrate or hammer the tip against the housing wall.

The top of the recorder housing is sealed off by the thermometer housing, which carries a maximum registering thermometer for indicating the bottom-hole temperature. The outside diameter of the thermometer housing is reduced near the center to provide a convenient grip for the operator in introducing the gage into the lubricator. An eyelet is provided at the top of the thermometer housing for attaching the Halliburton line. The protecting thimble screwed over the wire tie is tapered to facilitate its passage through tubing and valves, and carries a grooved fishing neck pro-

*The statements and opinions expressed herein are those of the author, and should not be construed as an official action or opinion of the Institute.

[1]Probable error, the dispersion or 0.6745 times the root mean square error of a large number of determinations. The significance of the probable error is that the error of a single measurement is just as likely to be less than the probable error as greater.

viding a grip for a sucker-rod fishing tool in case of wire breakage. The over-all length of the assembled gage is 67⅞ inches, with a maximum outside diameter of 1¾ inches. The weight, including the recording unit, is 34 pounds.

Description of Recording Unit

The removable recording unit is shown in Figure 4. It consists of two cylindrical sections joined together by a bearing block, which supports the chart drum. A ring is attached to the lower end of the drum housing by bayonet pins. The function of this ring is to depress the stylus retracting lever, thus lowering the stylus point to make contact with the chart when the recording unit is slipped into the recording housing. The end of the drum spindle carries two small gears, which can be thrown into engagement with either one of two mating pinions on a slidable shaft. This shaft is keyed to a gear which meshes with the driving pinion of the clock. With this gear shift, drum-rotation times of 4 hours and 13.5 hours can be obtained. The clock has a total running time of 24 hours. A spring-supported clamping pin is screwed into the top of the recording unit. With the recording unit in place in the gage, the lower end rests on a shoulder in the recording housing, and is held there firmly by pressure applied to the clamping pin by the lower part of the thermometer mount. The chart is held against the inner surface of the drum by two clamping rings, one at each end. The recording unit weighs 2.4 pounds. It should always be carried separately from the gage, both for its own protection and to maintain the sharpness of the stylus point.

Analysis of Gage Behavior

In order to describe the behavior of the gage, a rather detailed analysis of the various points which commonly cause errors in instruments of this type will be given.

Friction

Most pressure gages have their accuracies limited by the ratio of frictional forces arising between contacting surfaces to the total force exerted by the pressure acting on the primary element. With a gage of the Bourdon tube type, the initial energy is quite small—being but a few inch-pounds. Ordinarily, the length of the Bourdon tube is quite short, with the result that the motion of the tip is so small that it requires amplification to give a sufficiently open scale. In such an instrument, the friction necessarily encountered in gear trains may amount to from 1 to 5 per cent of the total force.

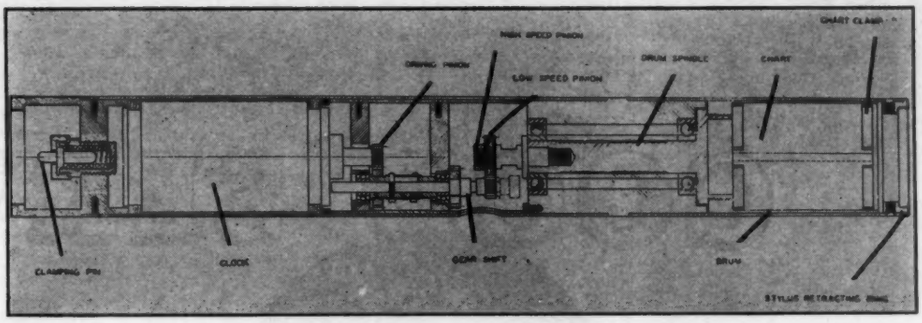

Fig. 4—Sectional view of recording unit

In the gage described there are but three points where friction can be encountered: in the guide bearing, in the header, and in the point where the stylus contacts the chart. Considerable clearance has been allowed at the two points contacting the shaft; and, since the gage is used in a vertical position, there is no radial load on these bearings. The spring which supports the stylus has been made so weak that a force of a small fraction of an ounce will lift the point from the chart. Because of the extremely high energy available in this gage, it is seen that the accuracy is limited—not by the frictional forces, but by the materials themselves.

Restoring Springs

Particular attention must be paid to the spring characteristics of the materials used. Deviation from Hooke's law, fatigue, creep, and hysteresis must all be eliminated or reduced to an absolute minimum. During the early development of the gage, a bronze primary bellows was used. These bellows performed satisfactorily below 2,000 pounds per square inch; but, because of the low tensile strength attainable in bronze, failures occasionally occurred at higher pressures. The elastic properties were not satisfactory, a tendency to creep and to take permanent set being observed. It was seen that in order to secure satisfactory performance, particularly at the higher pressures, a different material must be used. When beryllium copper became commercially available, this material seemed to be ideal. In the annealed state, the material is quite ductile; and it can be formed into the bellows shape very easily. A simple heat treatment, consisting of maintaining the temperature for two hours at 570° F., raises the tensile strength to 140,000 to 160,000 pounds per square inch. The hardness is increased, and the elastic properties become far superior to those of bronze. Methods of drawing the tube and fabricating the bellows were then worked out in cooperation with the tube and the bellows manufacturers. Tests on the finished product showed that the elastic properties were far better than those of bronze. The pressure which could be withstood without failure was greatly increased, and the life of the bellows under the same operating conditions was more than tripled. With a total motion of 1 inch of the free end of the bellows required, tests were made to determine the length of the bellows necessary to give this motion without taking a permanent set. After the necessary length had been determined, the length of the bellows was adjusted so that its free length would be one-half inch less than its length in the gage. In assembling the gage, the bellows was then stretched one-half inch by pulling down on the spring anchor. In this manner, the 1-inch motion was obtained without extending the free end of the bellows more than one-half inch on either side of its neutral position.

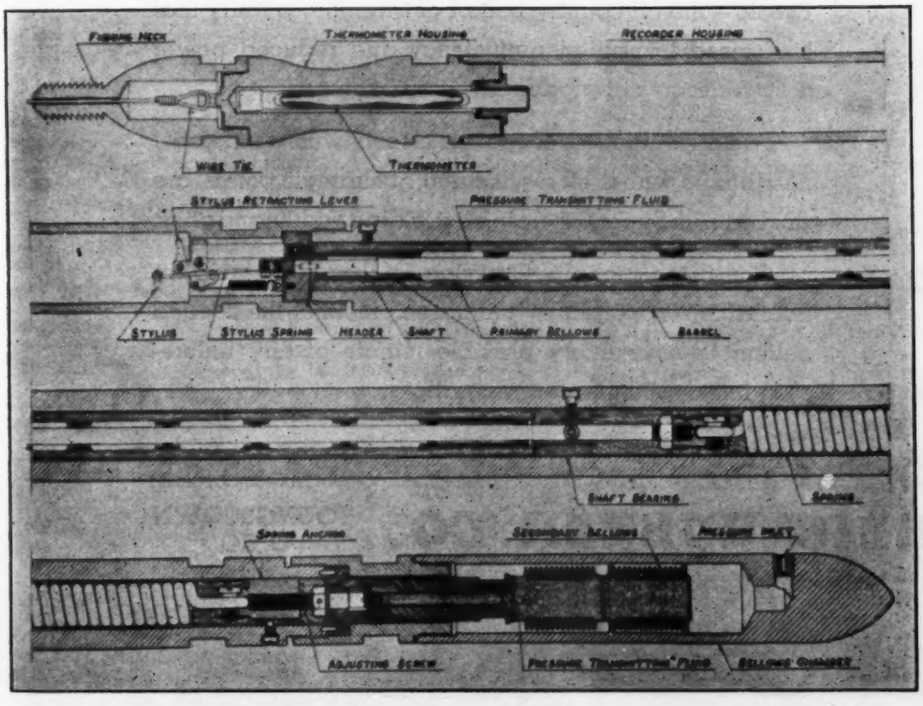

Fig. 3—Details of precision sub-surface pressure gage

Preparation of Springs

Due to the small space available for the restraining spring, it was necessary to use a close-wound spring. For each pressure range, the spring was designed to have the lowest possible maximum stress. The material best suited for this use was found to be pre-heat-treated chrome-vanadium steel. A fairly large number of springs made to the same specifications was secured. Any one which showed cracks or imperfections of any kind was at once rejected. The eyes were then straightened and ground to give correct alignment. The springs were then subjected to a low-temperature normalizing treatment, followed by an aging treatment in the apparatus shown in Figure 5. This device repeatedly stretches the spring about 10 per cent more than it will ever be stretched in use, while it is submerged in an oil bath at 180° F. It was found that 1,000 cycles under these conditions will serve to destroy any springs which have hidden defects, as well as to stabilize the remainder so that no further aging effect can be detected during their use. After the aging process, each spring is carefully tested for hysteresis, and its spring constant measured. The springs which do not return to within 0.0002 inch of their original length within 3 minutes after having been subjected to a 10-percent over-load for one hour are rejected. The remaining springs are then accepted for use in the gages.

Method of Recording

Because of the direct linkage between the stylus and the moving end of the bellows, the motion of one parallels that of the other. This makes possible the placing of an extremely accurate record on the chart. Even though most gages differ in this respect, in that they have either incomplete or non-rigid linkage between the primary element and the recording point, it is a very difficult matter to reconstruct the motion of the recording point as it actually occurred. Paper has been customarily used as the material for receiving the visible record of the motion. The chief disadvantage of paper is its inability to maintain its dimensions

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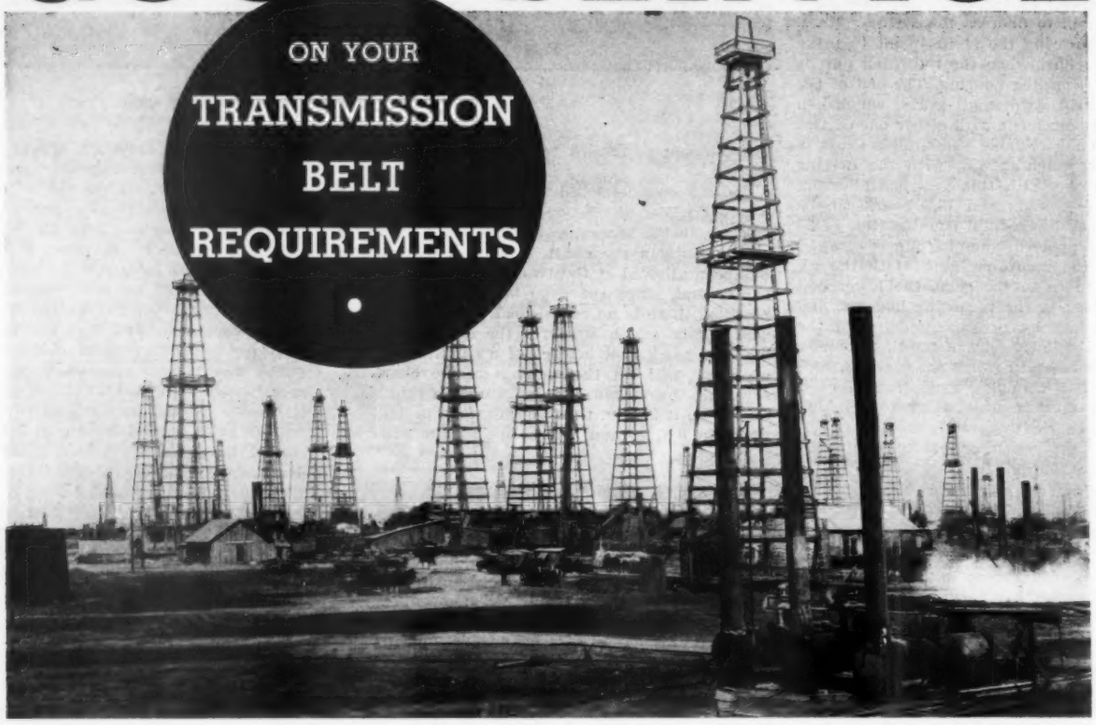

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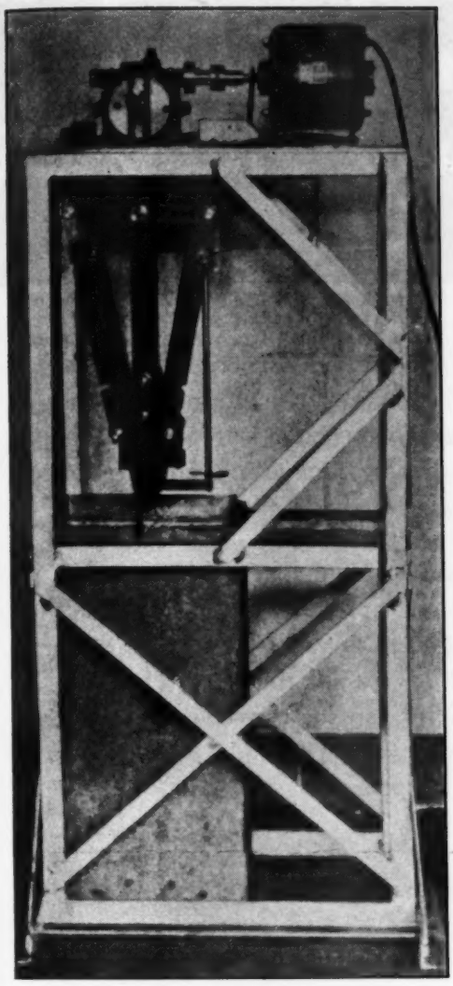


Fig. 5—Oil bath lowered to expose springs. Spring ager

under varying atmospheric conditions. A record made in a gage under conditions of one humidity will not be the same when examined under conditions of a different humidity and temperature. If a record is obtained in which a distance of 1 inch represents a difference of pressure of 3,000 pounds per square inch, an error in measurement of 0.001 inch will result in a pressure error of 3⅓ pounds per square inch. When a chart material is used which can change as much as 0.01 to 0.02 inch under different atmospheric conditions, it is useless to expect any precision.

A second disadvantage of paper arises through the means necessary in making the record visible. In case a coated paper (such as an engine indicator card) is used, the stylus point must be of soft brass or aluminum. If the point is not frequently sharpened, it soon wears flat—so that the line obtained is either wide and fuzzy, or completely illegible. A pen likewise requires frequent attention to keep it supplied with ink and freely flowing, while the record made consists of a wide line frequently blotted and whose center cannot be accurately located.

A third disadvantage lies in the method of attaching a paper chart to the drum. In order to get perfect contact over the entire surface of the chart, it would be necessary to coat one face of the paper with adhesive. This is obviously out of the question, since the chart would be destroyed through efforts to remove it. As a compromise, in some gages the adhesive is customarily placed at two or more of the corners—thus permitting the paper to leave the drum at various points, as well as allowing some motion of the free portion of the paper.

It was realized that the work of developing a movement with a precision response to pressure would be nullified if some other material than paper were not used for the chart. A few experiments soon showed that thin sheet aluminum was an ideal material. A flat sheet of the proper size is pre-formed by rolling to take cylindrical shape slightly larger in diameter than that of the drum. When it is slipped into the drum, its springiness tends to hold it in contact with the drum at all points. As a precaution against slippage and lack of contact, a clamp ring is placed at each end of the cylinder. The method of placing the chart in the drum is shown in Figure 6. The chart is long enough to give several hundredths overlap at one edge. The chart is placed with the overlap in such a direction that, as the drum revolves under the stylus, the point will fall over the inner edge. By doing this, there will be no tendency to catch the stylus point against the edge and so stop the clock or cause a snapping of the stylus spring. The stylus is tipped with tungsten carbide, and ground to a very fine point. The pressure is so light that there is no tendency for the point to follow a groove already made, even when crossing it at a very small

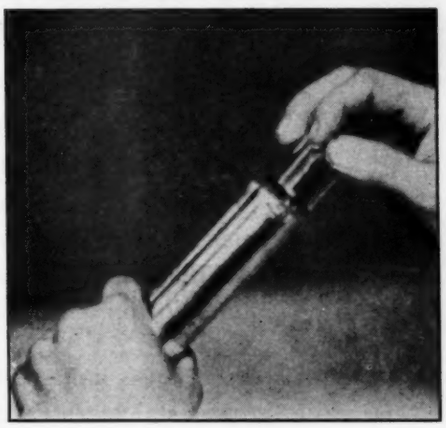


Fig. 6—Method of placing metal chart in recording unit

angle. The line scratched on the surface of the chart is usually about 0.0005 inch deep. Such a line can easily be distinguished, even though there are a number of random scratches on the surface of the chart. The line cannot be erased or destroyed without detection, and information pertaining to the record may be easily written on the chart with a pencil or fountain pen. A comparison of a record made in this manner with that made by a sharp brass stylus on paper stock is shown in Figure 7. The magnification in both cases is 100 times. After the chart has been removed from the recording unit, it is easily flattened by laying it face down on a pad of paper, or a fairly thick magazine, and rubbing lightly with a smooth straight edge in the direction of its length.

Temperature Effects

Since the temperature at which pressure measurements are made varies with the well and the depth, it is necessary to apply a correction to secure the correct pressure with any gage. A gage can easily be constructed so that there is no change of indication with change in temperature for a single pressure, because in all gages the action of the pressure is opposed by a restoring force supplied by the spring elements. The modulus of elasticity of these elements will change with temperature; the higher the temperature, the weaker the restoring force becomes and the greater the response for a given pressure. Nearly all the restoring force is supplied by a steel spring in this gage. Since the modulus of elasticity of steel changes with temperature about half as much as that of bronze or non-ferrous spring materials, the effect of temperature on this gage is less than in most. It is still present, however, and correction must always be made.

Even though the effect of temperature on the gage is known, it is necessary to know the actual temperatures at which the pressure measurements were made. In order to obtain this, it is necessary to incorporate a thermometer in the gage and to leave the gage in the well long enough for all parts to come to the temperature indicated by the thermometer. Because of its construction, thermal equilibrium is reached in a very short time in this gage. The pressure element is surrounded by a fluid contained in a steel barrel of high thermal conductivity, permitting ready conduction of heat to the element. In extreme cases 15 minutes is ample time to reach complete equilibrium, while 5 minutes is usually sufficient. A gage which has the pressure element surround by air will require a much longer time to reach thermal equilibrium due to the low conductivity of air. Actual measurements on a gage of this type show that the pressure element took nearly an hour to reach a temperature within 1° F. of the bath temperature in which it was placed. Use of such a gage is necessarily a slow process, since most of the time is spent in waiting for the pressure element to heat up.

After the motion of the gage element has been

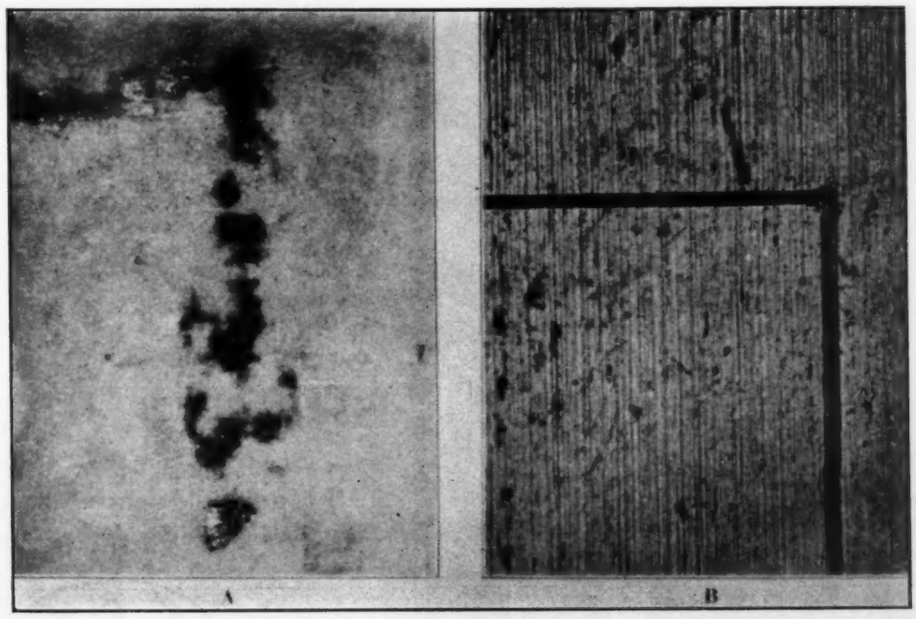
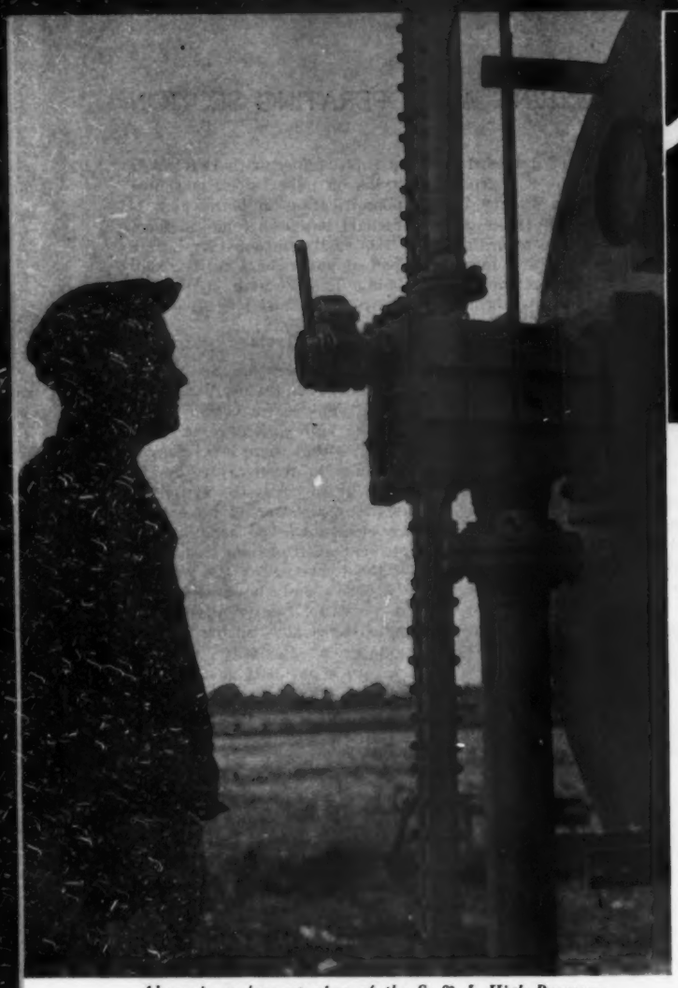


Fig. 7—Photomicrographs of sections of gage records
A—Line drawn by sharp brass stylus on indicator paper (100 × mag.).
B—Line drawn by tipped stylus on aluminum chart (100 × mag.).

Accuracy and Safety combined in S & J High Pressure Automatic Tank Gauges



Above is a close up view of the S. & J. High Pressure Automatic Gauge applied to a butane tank. The reading is taken through a gate valve which protects the tank contents in event of a fire cracking the reading glass.

•

Below is a battery of butane tanks, all of which were equipped with S. & J. High Pressure Automatic Gauges in order to obtain the accuracy not found in other methods of gauging.

In determining the contents of tanks containing liquified petroleum gases, there is practically no alternative to gas tight automatic gauging. The problem is to select a high pressure automatic gauge that will give an accurate reading with safety to both gauger and tank contents.

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Accuracy is limited only by the ability of your gauger to read a stainless steel tape graduated to eighths of an inch. At one end of the tape is a KA2 stainless steel float and at the other end a counterweight to keep the reading tape taut. Its accuracy lies in its simplicity, stainless steel bearings and fine workmanship.

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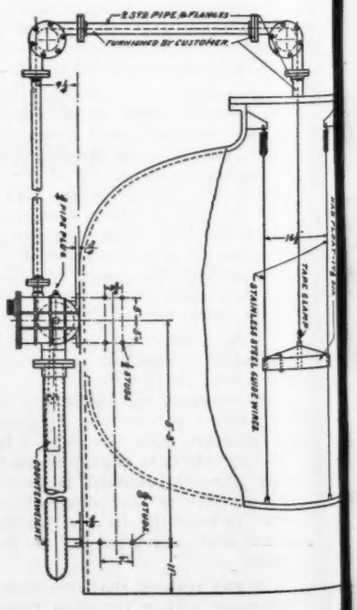
The drawing below illustrates the simplicity of the S. & J. High Pressure Automatic Tank Gauge designed for measuring liquified gases stored in above ground tanks. A similar system for underground storage is illustrated in our Catalog No. 52-B. Send for a copy of this book today.



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recorded on the chart, linear measurements of the motion must be made before values of the pressure can be determined. Customary practice has been to make these measurements with a straight-edge scale, either of steel or wood. In an attempt to determine the accuracy with which such measurements could be made, a sample chart was made up and measured very accurately with a micrometer microscope. It was then given in turn to six different engineers, with instructions to make the measurements as accurately as they could with a steel scale divided in hundredths of an inch and a magnifying glass. It was found that the average error of all the readings was ±0.008 inch. Had this been a chart from a 3,000-pound gage, the average error due to the method of reading alone would have amounted to ±26 pounds. This simple experiment showed the necessity for more accurate means of measuring charts. It is desirable to make the readings with greater accuracy than the gage is capable of giving in order that no error will arise from this source.

A survey of measuring instruments on the market showed that none was suitable for use in measuring the charts. It was decided to construct a micrometer microscope of the simplest possible design which could be used with the greatest convenience, yet giving measurements reliable to 0.0001 inch. The completed instrument is shown in Figure 8. The base frame is made of a single aluminum casting. Two steel rods running parallel to the front of the frame serve as guides for the bearings attached to the under side of the carriage.

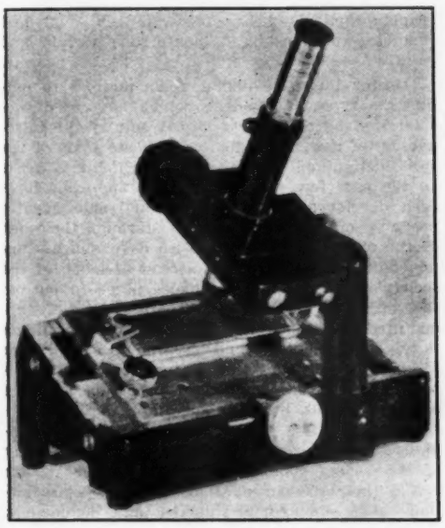

Fig. 8—Chart measuring microscope

The carriage can either be pushed back and forth by hand, or moved slowly by means of a small hand wheel projecting through the front of the casting. A scale attached to the carriage along the lower left-hand edge moves past the vernier which is inset in the frame. Reading accurate to 0.01 inch can be made over a distance of 4 inches. The chart is placed on a movable table fastened to the carriage. It is held in place by a piece of plate glass, which is placed over it and then clamped at each end. This table is pivoted at each end, the pivots being movable in a direction perpendicular to the length of the chart. The pivots are so placed that, with the chart in place, each end of the zero line is directly above a pivot in order that perfect alignment of the chart can easily be effected. A micrometer slide carrying a 60-power microscope is attached to a post which is firmly fastened to the frame. The table and microscope are inclined at an angle of 30 degrees for greater ease in reading. The micrometer slide is driven by an accurate screw, which carries a divided drum on its exposed end and has a total motion of 1 inch perpendicular to the motion of the carriage. The chart is placed on the table so that motion parallel to the time axis is indicated by the scale on the carriage, while motion parallel to the pressure axis is given by the micrometer slide. Measurements of deflections due to pressure can be made to 0.0001 inch.

Calibration of Gage

In order to calibrate a pressure gage, a device for supplying accurately-known pressures must be

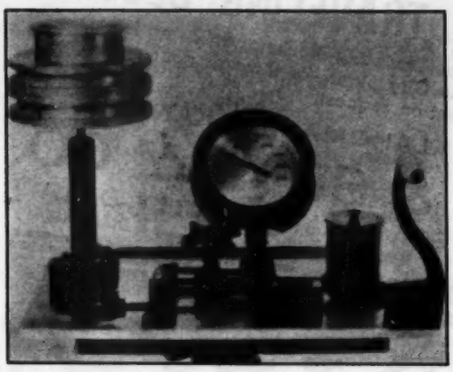

Fig. 9—Dead-weight tester used in calibrating gages

available. The most convenient and accurate source of pressure is the dead-weight tester, in which a piston of known area is forced into a close-fitting cylinder by means of weights piled on the pan on the upper end of the piston. The clearance between the piston and cylinder must be very small to prevent excess leakage, and the piston must be kept rotating in order to prevent sticking to the cylinder. Above all, its accuracy must be greater than that of the gage which is being calibrated. The dead-weight tester developed for calibrating gages is shown in Figure 9. The piston has an area of 0.05 square inch. Measurements made by the oil-leakage method showed a clearance between the piston and cylinder of 0.00004 inch. The weights were carefully adjusted on a precision balance against a set of standard weights bearing the National Bureau of Standards class "B" seal. A test gage is provided for indicating the approximate pressure, and is used to prevent over-shooting in some calibrations. Pressure is secured by means of a reciprocating piston pump. The piston is one-half inch in diameter, and has a one-half inch stroke. No packing is used, the piston being lapped into the cylinder. This gives free motion with practically no leakage. An oil reservoir is provided so that refilling need be made only at infrequent intervals. In calibrating a gage, it is first attached to the tester with one-quarter inch copper tubing. The valves are then opened so that no pressure is applied to the gage. The recording unit, with chart in place, is then slipped into the recording housing and given a complete revolution. This scribes a zero-pressure line along the lower edge of the chart. Sufficient weights to give 100 pounds per square inch are then placed on the dead-weight tester and enough oil pumped into the system to cause the piston to float freely. The weights are then spun by hand, and kept spinning for 2 minutes or 3 minutes, so that a horizontal line several hundredths of an inch in length will be drawn on the chart. This process is repeated in 100-pound steps until the complete range of the gage has been covered. The chart is then removed, and the deflections for each pressure measurement are measured with the micrometer microscope. Three or four such calibrations are generally made at room temperature and the same number at a higher temperature, approximately that at which the gage will be operated. From the averages of these two sets of measurements, data for constructing the calibration chart are obtained. No attempt is made to secure a convenient conversion factor in the construction of the gage because of the difficulties in securing a spring with an accurately predetermined constant. Instead, the calibration is presented as shown in Figure 10. With a chart such as this, an integral conversion factor may be used to which is added small correction factors obtained directly from the chart.

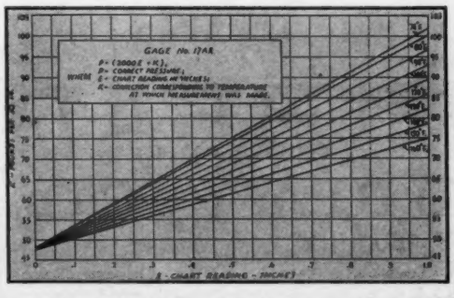
GAGE No. 1748
P = (3000 × R) + C,
P = CORRECT PRESSURE,
R = CHART READING IN INCHES,
C = CORRECTION CORRESPONDING TO TEMPERATURE AT WHICH MEASUREMENT WAS MADE.
WHERE
R - CHART READING - INCHES

Fig. 10—Sample calibration sheet

Errors Encountered in the Gage

In order to determine the accuracy of the gage, a large number of measurements was made, and the errors from the pressures applied by the dead-weight tester were computed. The results of 1,174 such measurements made at different temperatures are shown in Figure 11. Since these data include measurements by gages of ranges from 1,000 to 3,000 pounds per square inch, the errors are expressed as per cent of full range. It is shown that 61 per cent of the measurements were in error less than 0.1 per cent, while an additional 27 per cent of the measurements were in error between 0.1 and

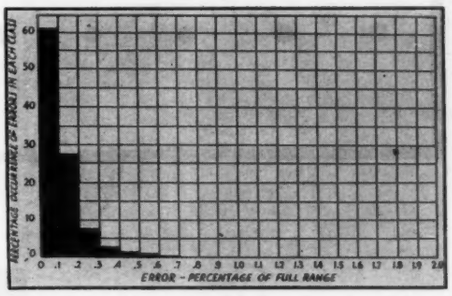

Fig. 11—Distribution of errors in bellows gage

0.2 per cent. There was no error greater than 0.7 per cent.

Figure 12 is shown as a comparison with these results. This presents the results of 674 measurements made with a gage operating with a fundamentally different type of primary element, but

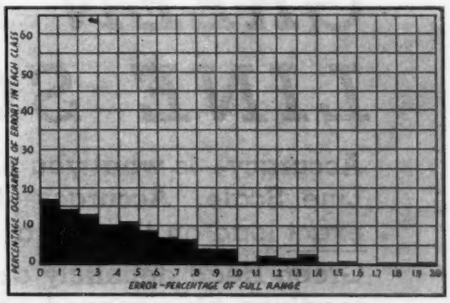

Fig. 12—Distribution of errors in gage No. 3

one of the most accurate gages now on the market. Although this gage regularly uses paper charts with a brass stylus, this series of measurements was made with a sharp steel stylus and especially formed aluminum charts in order to ascertain the behavior of the gage movement itself. In actual practice the errors due to the chart material and method of reading would be added to those found. It is seen that only 16.5 per cent of the total number of errors are less than 0.1 per cent, while only 64 per cent of the errors are of 0.5 per cent or less. The total range of erros extends to slightly greater than 2.0 per cent.

Conclusion

By careful attention to all factors tending to cause errors in sub-surface pressure gages, it has been possible to eliminate or reduce their effect so that a gage of hitherto unattainable accuracy

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could be constructed. Through use of a bellows as the primary element, sufficient energy becomes available to permit rugged mechanical construction in order to withstand the handling encountered in field use. Refined methods of interpreting the records prevent the occurrence of errors during this process.

Doctor Parmelee Will Address Annual Meeting of A.S.T.M.

One of the features of the thirty-ninth A.S.T.M. annual meeting to be held in Atlantic City, June 29-July 3, inclusive, is to be an address on the "Relationship of A.S.T.M. to Modern Developments in Chemical Engineering," by Dr. H. C. Parmelee, editor, Engineering and Mining Journal. This address will be given in the opening session on Tuesday morning, June 30, at which time the president, H. S. Vassar, will give the president's annual address.

At the 19 sessions of the meeting, there will be given some 120 technical papers and reports. Of the 70 papers, 12 comprise the extensive symposium on radiography and X-ray diffraction methods to which four sessions are devoted on Tuesday and Wednesday. This symposium covers the application of these methods to both metallic and nonmetallic materials. Five papers are to be given in the symposium on the limitations of laboratory and service tests in evaluating rubber products, Thursday evening.

Other groups of papers pertain to spectrographic analysis, boiler feedwaters, cement and concrete, soils, asphalts, nonferrous metals and paint.

Doctor Parmelee plans in his address to outline the types of problems which may need consideration by the society as a result of the introduction of new materials and indicate some of the specification and testing problems which may arise. In the past few years many new materials have been developed by the chemist and subsequently produced on a commercial scale through the work of the chemical engineer. These developments undoubtedly will influence the trend of much of the society's work. Doctor Parmelee plans to outline the situation as he views it. He is closely acquainted with the work the society has been doing in the standardization and research field, and from his long experience as an editor and editorial director he is in a splendid position to discuss some of the problems, both present and future.

Since 1936 is a year of publication of the triennially issued book of A.S.T.M. standards, many of the society committees have extensive reports giving their recommendations on many specifications to be adopted as standard and included in the volume. A large number of new proposed specifications are expected to be approved at the meeting for publication covering many materials for which standardized requirements have not previously been issued. About 50 reports will be presented in abstract by the various officers.

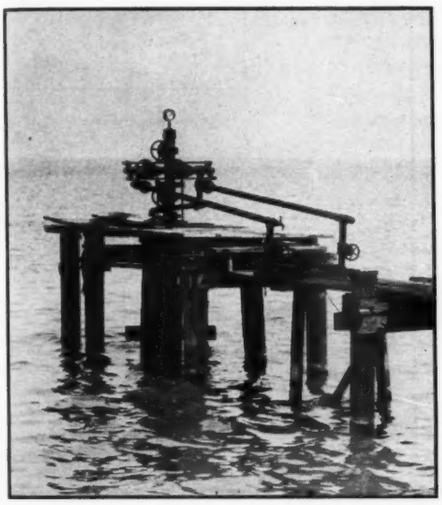
A cordial invitation to attend the annual meeting is extended by the society to those who may be interested in any of the subjects which will be discussed.

Flowing well manifold in Rodessa field

Pumping Unit for Permanent Barge Is Developed by The Texas Company

By NEIL WILLIAMS

Within the last several years the use of drilling barges specially designed with complete drilling equipment mounted on them, has become more or less general in water-located fields of the Louisiana Gulf Coast. Their use has resulted



This well, in Calcasieu Lake, Coastal Louisiana, was drilled with a drilling barge and required no more piling than shown

in substantial savings to the companies operating them, both in the elimination of expensive piling or matting foundations, and in the saving of time involved in tearing down and setting up rigs. In other ways they have proved extremely adaptable and convenient in such types of operations. All this has been described in detail in numerous articles and papers which have been published.

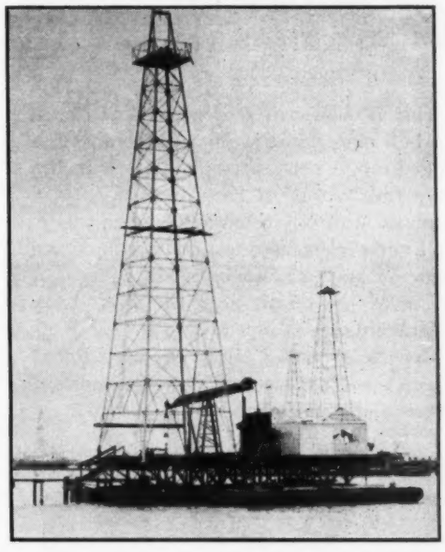
As auxiliary equipment to the drilling barges themselves there have been the power plant barges. These have consisted of various types. There have been those with complete steam generating plants, with two, three and as many as four high pressure boilers fully equipped and carrying their own large water reserve; there have been diesel-electric power plants permanently set up on such barges; there have been gasoline engine power barges, these, however, being a part of the drilling barges.

Now comes the permanently equipped pumping unit barges. The Texas Co. has just completed and put in operation two of these barges on Calcasieu Lake in the East Hackberry field, Cameron Parish, Louisiana. These are the first pumping barges which have ever been used.

These barges are expected to fill an important need in the production of wells in water located fields, working in conjunction with their cousins, the drilling and power plant barges. As in the case of drilling barges, they will eliminate the need of driving piling or building matting foundations for setting up pumping units on wells in such locations. When a well is to be pumped, it will only be necessary to move a pumping barge on to a well, submerge it, make the few connections needed, and start the well to pumping. All this will require only a comparatively short time, the matter of but a few hours.

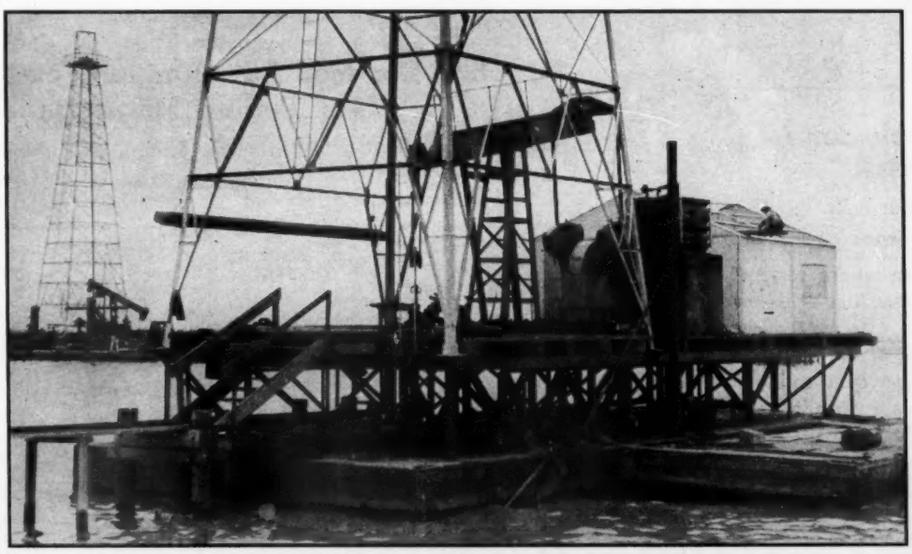
In those fields in which there are several sands and wells have to be worked over frequently or deepened from one sand to another, the ability to move a pumping barge on or off in short order is of particular importance. Most Gulf Coast fields do have more than one sand and wells generally have to be worked over occasionally or deepened from sand to sand.

Without the use of the pumping barge, it is necessary, on wells, which cease flowing naturally, to build a matting or piling foundation, as the case may be, and mount the pumping derrick and pumping unit on this. When the well ceases pumping, for reason of having to be worked over or deepened to another sand, the pumping unit has to be torn down, and the matting or piling foundations removed so that a drilling barge can be moved on. This, as previously mentioned, involved considerable cost and time. Then when the well has been worked over or deepened, and is to be put back on the pump, foundations must be rebuilt and another pumping unit rigged up. The pumping barge also is intended to be used as testing equipment. It can be moved onto a well to test its ability to produce on the pump. If the well fails to produce up to expectations the pumping barge easily can be moved off again and the drilling barge moved back on for further deepening. Identical in design, the two barges already provided are each 66 feet long, 28 feet wide and 8 feet deep, and of steel construction. Up the center of each barge is an 8-foot slot, similar to the construction of the drilling barge, to permit the barge



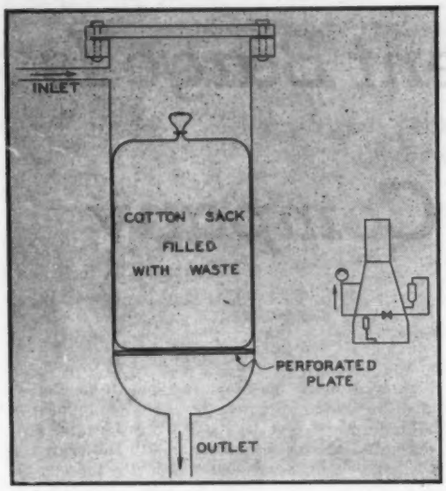
General view of the East Hackberry field in Calcasieu Lake, showing pump unit barge

to be moved on a well. The superstructure on the barge is 6 feet high, and on this is erected the derrick, the pumping unit and engine house, as shown in an accompanying picture. A 94-foot derrick is regular equipment. The power consists of a 12½ x 16, 40-horsepower, two-cycle, single-cylinder gas engine, convertible to oil, driving a 40-horsepower chain driven rig front. The latter is designed to operate at twenty-two 54-inch strokes per minute. The barges are of the submersible, rather than the floating type, the same as the large drilling barges which are being used by the Texas Co. and other companies in deeper drilling operations. Each barge is equipped with two spuds which are dropped when the barge is directly over the well to be pumped. They then are sunk by opening of seacocks. Each barge draws 18 inches of water and can operate in water up to 12 feet deep and is unaffected by vibration.



Close-up of new pumping unit barge recently put in operation by the Texas Co. in the East Hackberry field, in Calcasieu Lake, Cameron Parish, Coastal Louisiana

OPERATING IDEAS BY GASOLINE



Oil Filter

H. E. SCOTT, Chief Repairman

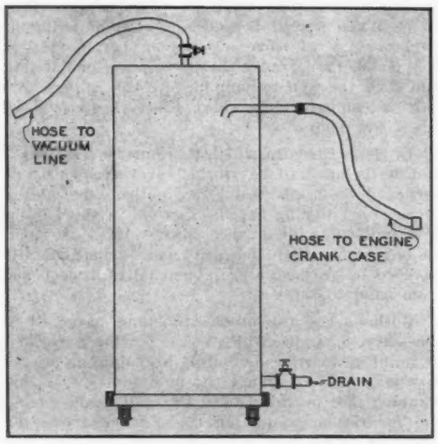
Skellytown, Texas

This filter consists of a piece of 6-inch pipe bull plugged at the bottom and with a flanged top. A perforated plate a few inches above the bottom of the filter supports a cotton sack, tightly filled with cotton waste. The filter is connected to the oil pump of an engine in such a manner as to by-pass a portion of the oil through the filter back to the crankcase.

The use of such a filter has been found to keep the crankcase oil in good condition and clean all the time.

Operating Ideas Series

Continuing the presentation of Operating Ideas awarded prizes at the annual convention of the Natural Gasoline Association of America, another group of winners is shown this week. The first of a series appeared in The Oil and Gas Journal, May 28, 1936 pages 30 and 31. A third installment will appear in an early issue.

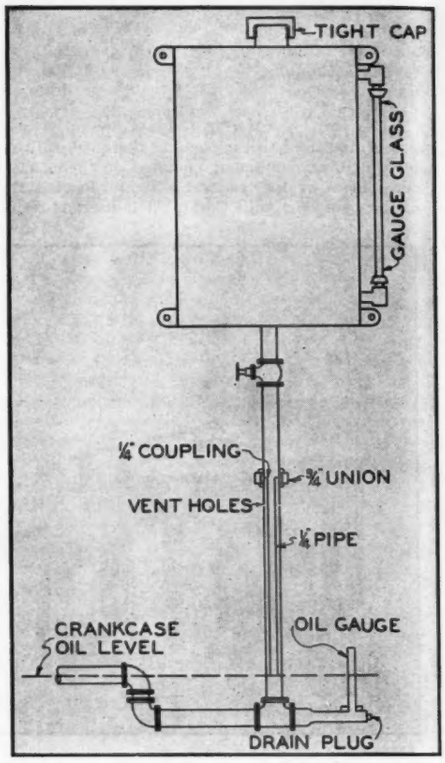


Crank-Case Cleaner

V. L. GUISER, Stillman

Carter Nine, Okla.

This cleaner has the following advantages. (1.) It saves the time taken in dipping oil out of a crank-case. (2.) It saves rags used in cleaning. (3.) The clean-up time is cut and the job is done cleaner.

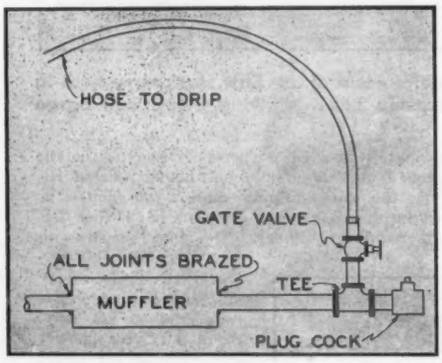


Automatic Level Control for Crank Case Oil

PERRY HAGAR, Plant Operator

Carter Nine, Okla.

Oil passes out of the bottom of the reservoir through a 3/4-inch pipe connected with a 1/4-inch pipe at a union. The 3/4-inch



Pressure Supply for Blowing Drips

A. H. BAZELL, Plant Supt.

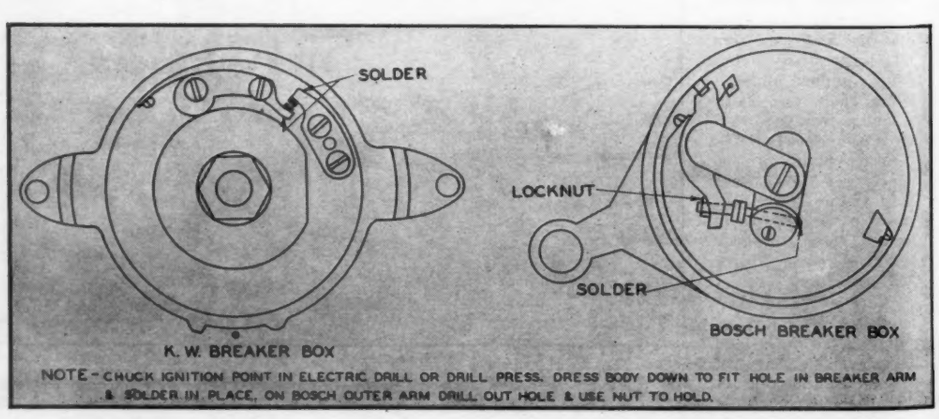
Burkburnett, Texas

This is intended for use where residue gas is not available for pressuring drips on vacuum lines. Connections were fitted on the end of the exhaust pipe of the automobile driven by the man sent around to blow the drips. These connections are made with a provision for attaching 50 feet of garden hose. When the drip is to be blown, this hose is connected to the drip with the engine running. The hose is purged of air. Then the stop-cock on the end of the exhaust valve tee is closed and 10 to 15 lbs. pressure is available for blowing the drip.

Adapting Common Auto Ignition Points to Large Gas Engine Magnetos

C. P. DUVALL, Plant Supt.

Cunningham, Kans.


SOLDER
LOCKNUT
SOLDER
K. W. BREAKER BOX
BOSCH BREAKER BOX
NOTE - CHUCK IGNITION POINT IN ELECTRIC DRILL OR DRILL PRESS. DRESS BODY DOWN TO FIT HOLE IN BREAKER ARM & SOLDER IN PLACE. ON BOSCH OUTER ARM DRILL OUT HOLE & USE NUT TO HOLD.

S AWARDED PRIZES
E ASSOCIATION

pipe is vented to the air below the union. The bottom of the 1/4-inch pipe is set at the desired level of the oil in the engine crank case. When the level falls below this mark, admission of air to the oil reservoir permits additional oil to flow into the crank case and thus maintain the level.

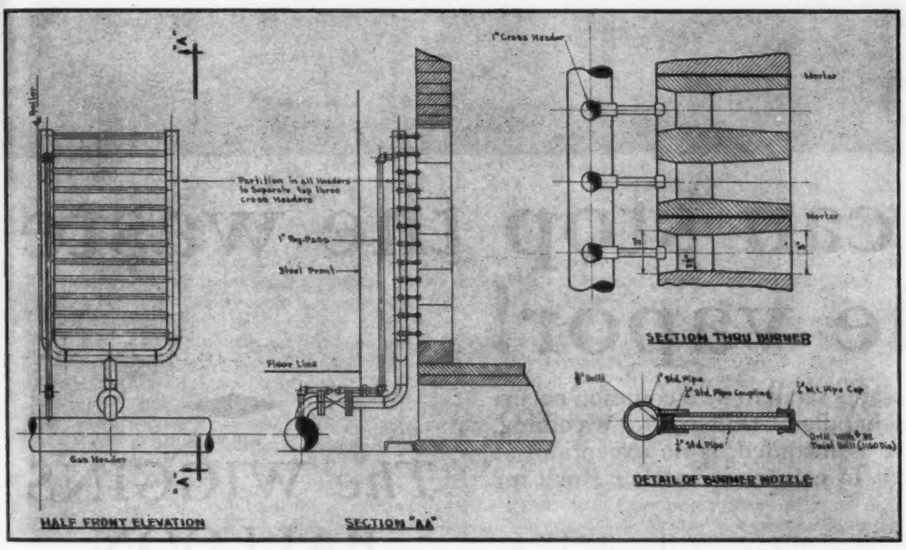
The possible saving effected by this device in the course of a year has been estimated to amount to $1,000.

Low Pressure Gas Burner

R. K. McCONNELL, Oklahoma City, Okla.

This burner operates on such low pressure gas as might be termed a waste gas, and does so more efficiently than the usual burners operating on a gas at higher pressures.

The accompanying drawing illustrates a burner designed to operate on gas at pressures much lower than the usual type of gas burner. Whereas most burners operate at a gas pressure of 10 to 20 lbs. per square inch, this burner operates at only 1 to 2 pounds.



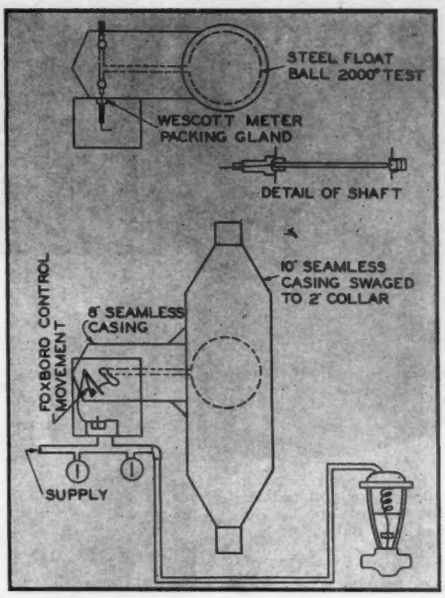
This low pressure gas burner is working very efficiently in firing boilers in one natural gasoline plant, the gas burned being residue gas exhausted from a gas lift used to lift water to the top of the cooling tower. A modification of this type of burner is being used extensively also on oil field boilers.

The burner consists of multiple small diameter jets extending a 1/2-inch into the openings of venturi-shaped air channels through a refractory block covering the burner area. The jets are 1/4-inch standard pipe nipples welded into headers of 1-inch standard pipe. A 1/4-inch malleable iron pipe cap, through the center of which is drilled a 0.116-inch diameter hole, is screwed onto the end of each jet. The venturi-shaped openings through the refractory block are 3 inches in diameter at each end, the diameter decreasing to 2 1/2 inches in the venturi throat. A quick-setting refractory material was used for casting the block containing the venturi air channels.

As an example of the utility of this low pressure gas burner the following test results are tabulated for a boiler while operating on the usual type of high pressure burner together with results after the burner had been changed to the low pressure type described above:

Operating data for 165 H.P. Vogt Boiler; heating value of Residue Gas: 1150 B.T.U.

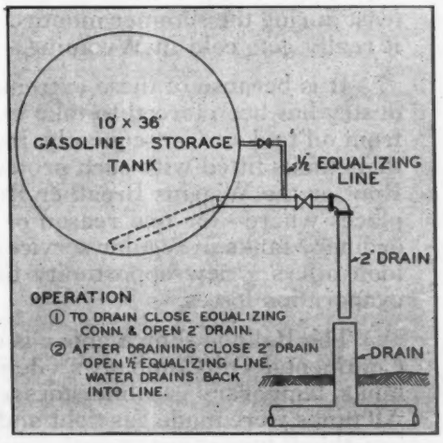
	HIGH PRESSURE BURNERS	LOW PRESSURE BURNERS	PERCENTAGE CHANGE WITH LOW PRESSURE BURNER
Gas pressure at burners, lb./sq. in.	18	1.5	
B.H.P. developed	405	509	25.7 Increase
Percentage of rating developed	249	314	26.1 Increase
Thermal efficiency, per cent	63	71	12.7 Increase
Gas consumed per B.H.P., cu. ft.	50	41	18.0 Decrease
CO_2 in flue gas, per cent	5.6	8.2	31.7 Increase
Temperature rear of furnace, °F.	2,020	2,670	24.4 Increase



High Pressure Oil Level Remote Control

C. P. DUVALL, Plant Supt.
Cunningham, Kans.

To obtain better contact between gas and oil in high pressure absorbers and stills through the use of a dependable control of oil levels, this device was worked out. It was designed to control oil from an absorber operating at 1,500 lbs. per sq. inch. Due to the small amount of energy required to move the small shaft through the stuffing box, this float control has given excellent service.

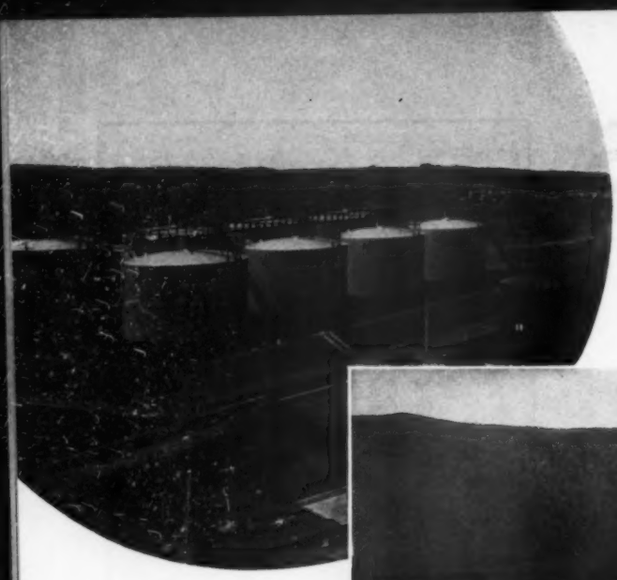

10' x 36' GASOLINE STORAGE TANK
½ EQUALIZING LINE
2" DRAIN
OPERATION
① TO DRAIN CLOSE EQUALIZING CONN. & OPEN 2" DRAIN.
② AFTER DRAINING CLOSE 2" DRAIN OPEN ½ EQUALIZING LINE. WATER DRAINS BACK INTO LINE.
DRAIN

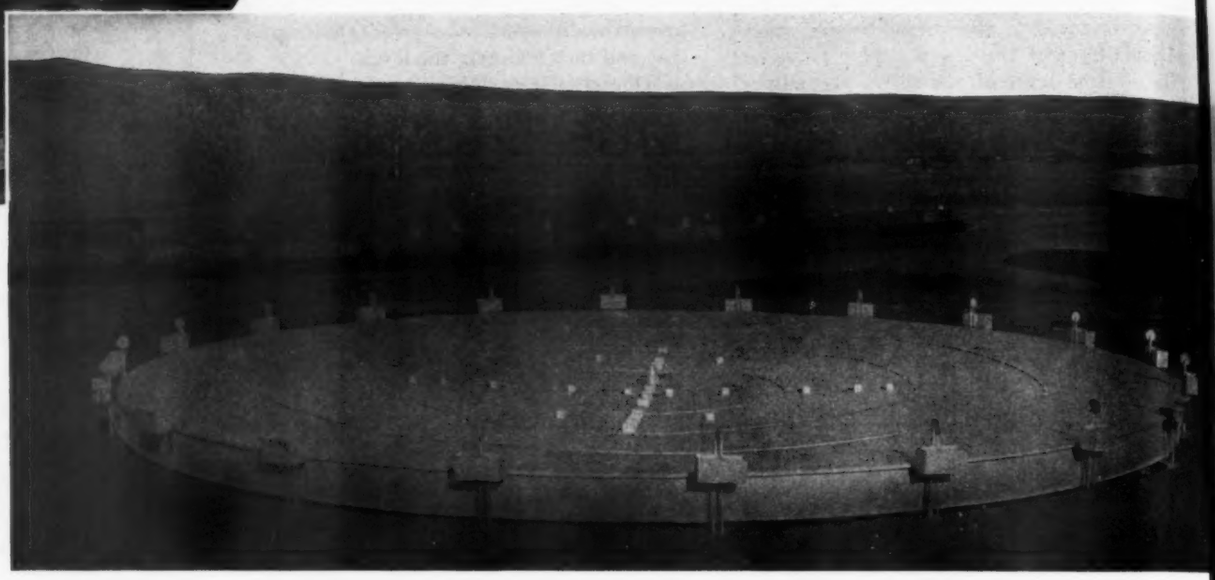
Anti-Freeze Drain

H. H. HIATT, Mfg. Engineer
Breckenridge, Texas

There is no chance for drain valves to freeze where this device is used. Complete drainage is insured after the valve is closed because pressure is equalized through the equalizing line, thus allowing the fluid to syphon back into the bottom of the tank. This is a valuable feature in cold weather.

You Can't keep Ordinary Tanks from "BREATHING"—





Above—A group of ordinary tanks such as can be connected to a Balloon Balancing System.

Right—This 150 ft. dia. Wiggins Balloon has 150,000 cu. ft. capacity. It is connected to fifteen tanks in the Continental Oil Co., refinery at Glenrock, Wyo. Installed in September, 1934, it has operated successfully through two hard winters.

But you can stop the waste of valuable vapor!

By coincidence, *hot* days and *cool* nights seem to be a common occurrence at many of the places where oil is handled. Glenrock, Wyoming, where the Wiggins Balloon shown above is installed, is no exception, at least during the summer months. Winter, of course, is another story for it really gets cold in Wyoming.

It is because of these extremes in daily temperature that the oil industry has been forced to take extra precautions against breathing losses from oil tanks. Consequently, many companies now have a part or all of their tanks fitted with such protective equipment as the Wiggins Pontoon Roof or the Wiggins Breather Roof. Unfortunately there are many other places where—for one reason or another—there are a certain amount of ordinary tanks in regular service. It is in such cases that the Wiggins Balloon offers a new opportunity to make worthwhile savings by reducing evaporation losses.

The Balloon shown above is connected to a total of fifteen tanks in the Continental Oil Company's Glenrock refinery. These include rundown tanks, temporary gasoline storage tanks and main gasoline storage tanks. All tanks were made gas tight and are inter-connected with the result that breathing losses are greatly reduced. With tanks filling and emptying throughout the refinery it is also possible for the Balloon System to practically balance pumping.

This is just one example of the many ways in which Wiggins Balloons can be used to reduce evaporation losses and increase profits at refineries, tank farms, bulk stations, marine terminals, filling stations, etc. Write our nearest office for complete information.

The WIGGINS BALLOON Vapor Balancing System

1. Balances day expansion against night contraction.
2. Balances excess filling and emptying.
3. Applicable to all gas-tight tanks.
4. Can be installed without disturbing tank operations.
5. No operating costs.
6. No seals to freeze or bind. No water to heat in winter.

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HOUSTON	2919 Main Street	DETROIT	1514 Lafayette Building	BOSTON	1517 Consolidated Gas Building
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Fabricating Plants in BIRMINGHAM, CHICAGO and GREENVILLE, PA.

Instrumentation in Oil Refining

By A. C. PROCTOR and GUSTAV EGLOFF
Universal Oil Products Co.

One of the important developments in the processing of oil has been in automatic control. This development has brought about marked economic savings due to producing better and higher yields of the more valuable products from crude oil. Automatic control plays an important part in operating crude-oil stills, cracking units, and combined topping-cracking units which have been built in capacities ranging from small to large (up to more than 30,000 bbls. per day of crude). At present an atmospheric distillation unit is being designed of a capacity of about 65,000 bbls. of crude oil per day.

In the days of batch-shell still refining and cracking operation but a few years ago, a single mercury thermometer and an indicating pressure gauge were deemed sufficient. The control of operation was by hand, with no automatic devices for maintaining and controlling temperatures, pressures, fluid (liquid and gas) flow rates, or liquid levels in the system. At the present time some refining units, in order to insure accurate control are equipped with more than 300 control or indicating points, which are served by highly skilled instrument men.

From the time of mercury thermometers and indicating pressure gauges to the present day, automatic controllers have developed so that they more nearly meet the requirements of modern refining. Refiners must increase yields and quality of products from their crude oil. Recovery of 100 per cent of the crude-oil charge, with no loss, is ideal. With each plant going into operation, this ideal is nearer attainment; and instruments play their part. As refining has improved, controls have improved to meet modern requirements. Automatic-instrument developments have been made in order to establish and maintain constant optimum operating condition, otherwise unattainable with hand control due to human frailty, thus improving yields and products to meet present-day standards. Instruments have lessened the manpower required to operate a plant—thereby reducing operating costs, and in addition are a check upon the performance operation of the operators and the process. One must be careful not to over-instrument a unit so that a false sense of security is manifested by its operator. They must still operate the plant. However, automatic controls are a help in that direction.

In refining operation, the variables entering into the processes are principally temperature, pressure, rate of flow, and liquid levels. These variables are interdependent, and a change of one affects the others. As a simple illustration: if the oil charge to the unit is increased without additional firing in the furnace, the transfer temperature will be reduced; therefore, the flow must be correlated with the heat applied. A unit should be studied thoroughly for all possible variations in different parts of the equipment, and automatic instruments should be used wherever applicable.

Temperature Measurements and Control

The accurate measurement of temperature in a refinery is of the first importance. From the time crude oil is measured in storage tanks and corrected to standard conditions of 60° F., its processing in the refinery to commercial products requires uniform temperature control, the attainment of which demands highly accurate recordations.

Devices for measuring or controlling temperature are divided into the following major groups:

A. Expansion thermometers.
B. Resistance thermometers.
C. Optical pyrometers.
D. Pyrometric measuring devices.

A. Expansion Thermometers. Everyone is familiar with the garden variety of thermometer for temperature indication by means of the expansion of mercury, liquid, or gas. This is carried a step further by the use of the indicating-and-recording thermal-expansion type, with capillary tubing for remote reading. The expanding fluid may be liquid or gas. These devices have a definite top range within which accuracy may be relied upon. Maximum tubing lengths depend upon the type of thermometer. The expansion or contraction of the liquid or gas in the thermobulb, which is inserted at the point where the temperature is to be measured, moves a helical tube connected to a pen mechanism which records the temperature, or to a pointer which indicates it.

B. Resistance Thermometers. Resistance thermometers are of a class which depend upon the variation with temperature of the resistance of an electrical conductor.

A.P.I.—Presented Mid-Year meeting of American Petroleum Institute, Tulsa, May 15, 1936.

All metals have the property of changing in electrical resistance with temperature. The most commonly used metals measured by electrical resistance are platinum, nickel, copper, and iron wire because of their constancy at fixed temperatures after repeated heatings and coolings, and because of their relatively large change in electrical resistance per degree of change in temperature. Each of these metals follows definite resistance-temperature relations. For every degree of change in temperature, there is a corresponding change in resistance—the ratio of change being termed the "temperature resistance coefficient" of the wire.

A Wheatstone bridge is used for measuring the resistance of the conductor of the thermometer by comparison with the known variable resistance of one arm of the bridge. Resistance thermometers have the advantage of an accuracy of the order of one-third per cent up to a maximum temperature of 1,100° C. (or 2,102° F.). They are important for laboratory work, where high precision is necessary, but are less for refinery control and recordations, as poor contact, or a broken strand in a flexible cable, introduces large errors. The relative fragility of this type of thermometer necessitates very carfeul handling, because its calibration is easily affected.

C. Optical Pyrometers. Optical pyrometers utilize only the visible portion of the spectrum for temperature indications, and depend upon the eye for a comparison of the equality of two color images. True optical readings are made only under black body conditions; however, the radiant surface in the interior of a furnace under operating conditions may be assumed to have black body conditions, which introduces but a small error. A tungsten-lamp filament is placed in the plane of an image of the hot spot. The incandescent filament and the image produced by the lens are observed through an eye-piece. A small battery is used with a rheostat and with an accurate milliammeter. By means of the rheostat the current passing through the lamp is adjusted, until the brightness of the filament is equal to that of the image produced by the hot object. When this point has been attained, the reading on the milliammeter is taken, and then compared with a calibrated chart for conversion to temperature. This type of measuring device is somewhat limited; since clear vision of the spot to be measured must be obtained, and any dust or smoke particles introduce inaccuracies. This type may be used at temperatures of 1,400° F. and above. In cases of high temperatures, say above 2,500° F., the intensity of the light through a lens is "too blinding"; to overcome this absorption screens are used, which reduce light from the hot body but do not affect the filament. A different calibration table would then be used to allow for screening.

D. Pyrometric Measurements. Pyrometers, both of the millivoltmeter and potentiometer type, play a very important part in reading temperatures throughout a refinery. A thermocouple placed at the point where the temperature is desired sets up an electromotive force which is measured in the instrument. The millivoltmeter type records this electromotive force by means of a sensitive D'Arsonval type of galvanometer. The potentiometer provides a means of opposing a known variable potential to the unknown electromotive force of the thermocouple.

In the early days, considerable difficulty was experienced with temperature-measuring devices. Thermocouples were continually burning out, or wells deteriorated. Consideration given to the nature of the gases in the combustion chamber of a furnace and to the materials chosen, will increase the life of thermoelements and wells to a large degree. The location of couples in a furnace has much to do with the type of thermocouple required. It is not always necessary to locate a thermocouple in the hottest spot of a furnace, as proper operating temperatures can be often established at a point of lower temperature.

Thermocouples in commercial use, with their working-temperature ranges, are shown in Table 1.

TABLE 1

Type of thermocouple—	Usual temperature ranges (Deg. C.)	Usual temperature ranges (Deg. F.)	Maximum temperatures (Deg. C.)	Maximum temperatures (Deg. F.)
Platinum-rhodium	0 to 1,450	0 to 2,650	1,700	3,100
Chromel-alumel	—200 to 1,200	—300 to 2,200	1,350	2,450
Iron-Constantan	—200 to 750	—300 to 1,400	1,000	1,800
Copper-Constantan	—200 to 300	—300 to 570	600	1,100

Thermometers and pyrometers have been developed into controllers of high efficiency. To the system of measuring have been added electrical relays or mechanisms which control air to a diaphragm motor-control valve. Refinements give wide throttling ranges and automatic re-set for close temperature control.

Throttling range is the correlation of the pyrometer or thermometer and valve to provide the proper supply of controlled fluid such that the quantity of fluid is proportional to the deviation from the normal control point.

Re-set is the means of bringing the control point back to the desired operating temperature, within the throttling range of the instrument, for variations in the controlled flow. Instead of the control point moving within a fixed throttling range, it remains fixed and the throttling range moves about it.

Flow and Measurement of Fluids (Liquid or Gas)

The volumetric measurement of fluids and their rate of flow in refining operations are fundamental

factors in design and operation. These values must be determined as accurately as possible—not only by the engineer who designs the unit and by the instrument engineers; but operators should be thoroughly familiar with the importance of close control of fluid flows. The methods used in the refinery are:

A. Displacement meters.
B. Differential-pressure meters.
C. Pump-stroke counters.
D. Tank gauges.
E. Calibrated weirs.
F. Calibrated lifting ball meters.

A. Displacement meters record flow through a train of gears as a result of mechanical displacement of parts by the medium being measured. They have the following advantages:

1. Low first cost, especially in smaller sizes.
2. Fair accuracy.
3. Simplicity.

They have the following disadvantages:

1. They record total flow, and not instantaneous rate of flow.
2. Mechanical wear causes expense for replacement of parts.
3. The volume range is limited, and cannot be readily changed.
4. They cannot be used on highly viscous fluids.

B. Differential-pressure-type meters are used widely in oil refining because of their inherent accuracy and flexibility. The usual commercial type of instrument consists of a metal U-tube filled with mercury, with a float transmitting the differential pressure to an indicating scale or chart. Another type utilizes a spring loaded diaphragm for measuring the differential pressure.

Differential-pressure-type meters use the basic formula:

$$Q = C\sqrt{h}$$

where:

Q = the rate of flow.
C = the constant dependent upon the physical characteristics of the differential-pressure producer, the physical characteristics of the fluids being measured, and upon the units used.
h = the differential pressure produced by the flow (usually measured in inches of water).

It is common practice to give the constant C for water or air flowing through the orifice under standard conditions. This water or air constant then is corrected for temperature, gravity, viscosity, and sealing liquid to give a constant for flow under operating conditions. For gas meters, corrections for atmospheric pressure, and for the static pressure in the line, must be made when calculating fluid flow.

The differential-pressure-type meters for different refining operations use for differential-pressure producers:

1. Orifice plate.
2. Venturi tube.
3. Pitot tube.

Area Meters

These devices all operate under the same principle, and may be differentiated one from the other by: (1) The orifice plate consists essentially of a thin plate with a carefully machined and measured circular hole placed in the line through which fluid flow is taking place, and the differential pressure across the plate is measured by a manometer or differential gauge; while the static pressure is taken by another gauge. It measures the decrease in static pressure due to an increase in the velocity of the fluid stream caused by the known reduction in the cross-sectional area of the path of flow. (1b) Another type orifice meter has a variable orifice area. (2) The Venturi tube has a gradual change in cross-sectional area designed to give maximum pressure recovery. (3) The Pitot tube measures velocity head, and usually consists of two tubes—one pointing upstream, and the other downstream.

The orifice plate constant area (round hole, sharp edge) is the most widely used differential-pressure producer.

Advantages of the orifice meter are:

1. Low first cost.
2. Adaptability to varying flow. (The size of the orifice may be changed, and a new plate provided, with little expense for different flow conditions.)
3. Relatively accurate when all factors are considered for free-flowing liquids.
4. Small space required in piping.
5. Ease of transmitting readings to a remote point.

Disadvantages of the orifice plate are:

1. Vaporization errors with highly volatile liquids.
2. Lack of accuracy on highly viscous materials.

A sample calculation of liquid flow through an orifice will be given to illustrate the factors involved. It is assumed that the size of the orifice has been determined, and that flow calibration is to be made under conditions as follows:

d = size orifice—1.250 in. (⅛-in. thick plate).
D = inside diameter of pipe—2.125 in.
T = temperature at orifice—675° F.
Sealing liquid (glycerine, water, and alcohol), specific gravity of 1.000 (water at 60° F.).
Pressure connections—in orifice flange.
Viscosity, correction not used at 675° F.
Gravity—20 deg. A.P.I. at 60° F.
$h_{max.}$ = maximum differential range of meter—100 in.
Scale = 0 to 10 square-root chart.

Then:

$$C_w = 327.3 \times C_v \times d^2 \qquad (1)$$

ANNOUNCEMENT

Western Petroleum Refiners Association announces another step in furtherance of its policy of better serving its members, the oil industry and the public.

After careful consideration by a special committee, the members of Western Petroleum Refiners Association on April 7, 1936, unanimously adopted gasoline specifications and octane brackets, with the firm belief that such standards of quality would be of great value to the industry and a protection for the consuming public. Printed copies are now available and will be mailed to anyone on request.

Beginning on June 1, 1936, Western Petroleum Refiners Association will inaugurate a new service for its members and for all purchasers of spot tank car gasoline. On and after that date the office of the Association in Tulsa will have on file an up-to-the-minute record of spot tank car gasoline (which meets W.P.R.A. specifications), offered by refiner members, covering octane rating, quantities, dates on which available for shipment and shipping points. This service is being instituted to assist all prospective purchasers of spot tank car gasoline quickly, and with a minimum of expense, to get in touch with those Western Petroleum Refiners Association members who are offering spot gasoline, of W.P.R.A. specifications, most nearly meeting the purchaser's requirements as to octane rating, quantity available, shipping date and shipping point.

Western Petroleum Refiners Association believes that this service will be of great value to purchasers of spot tank car gasoline, and all prospective purchasers are urged to take advantage of it. Please direct your inquiries to Western Petroleum Refiners Association, Gasoline Department, 607 Cosden Building, Tulsa, Oklahoma. You will receive a prompt answer by mail (or by telephone or telegraph collect, if you so request), giving you the names of those member refiners who have offerings on file most nearly meeting the requirements of your inquiry.

WESTERN PETROLEUM REFINERS ASSOCIATION

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Tulsa, Oklahoma
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where:

C_w = hourly water constant of the meter. (327.3 is a constant which embodies experimental and dimensional constant necessary to get C_w in gallons-per-hour units when a seal of specific gravity of 1.00 deg. is used.)

The seal correction for liquid or mercury is derived from the formula:

$$\sqrt{1 - \frac{\text{Sp. Gr. b}}{13.6}}$$

where:

Sp. Gr. b = specific gravity of sealing liquid.
13.6 = specific gravity of mercury.
C_v = coefficient of velocity of the orifice, a function of the ratio of the orifice diameter to the pipe inside diameter, in inches for flange connections.

Then:

$$\frac{d}{D} = \frac{1.250}{2.125} = 0.588$$

From experimental data of well-known instrument makers, $C_v = 0.653$ for d/D of 0.588, using flange connections.

Then, substituting in equation (1),

$C_w = 327.3 \times 0.653 \times (1.25)^2$
$= 334$ gal. per hour for one inch of water differential.

Then, multiplying by the square root of the maximum differential reading at the meter, and correcting the flow volume to 60° F., and correcting for gravity the maximum reading of the orifice meter is determined.

$Q_{max.}$ = flow through orifice at the maximum reading of the meter in gallons per hour at 60° F.

$$Q_{max.} = C_w \times \sqrt{h_{max.}} \times \frac{1}{E} \times \sqrt{\frac{1}{\frac{G}{E}}} \qquad (4)$$

where:

C_w = water constant of meter.
$h_{max.}$ = maximum differential reading of meter.
E = expansion, or ratio of hot volume of the oil to its volume at 60° F. (Obtained from experimental data.)
G = specific gravity of the oil at 60° F. (Referred to water at 60° F.)

Then, substituting the quantities as given:

$$Q_{max.} = 334 \times \sqrt{100} \times \frac{1}{1.341} \times \sqrt{\frac{1}{\frac{0.9340}{1.341}}}$$

$= 2{,}980$ gal. per hour at 60° F.

Since the meter is furnished with a square-root chart scale, the reading is proportional to the flow. Therefore, if the meter read 7.0, the instantaneous flow is:

$$Q = 2{,}980 \times \frac{7.0}{10} = 2{,}086 \text{ gals. per hour (volume at 60° F.)}$$

If hot volume is desired, this flow is multiplied by the expansion E, or the quantity $\frac{1}{E}$ is left out in equation (4).

Gas-flow calculations are similar to this, except that the absolute pressure of the gas (static) is another variable, and the volume of the gas must be referred to a pressure base as well as temperature.

1b. Orifice type variable area meters record or indicate the area of a variable orifice necessary to maintain a constant differential pressure across the orifice. They usually consist of a draw-gate which slides up and down to vary the size of a rectangular orifice to maintain the constant differential. The opening of the "draw-gate" may be liberated in units to give rate of flow.

Area meters have the advantage of:

1. Ability to measure highly viscous materials with fair accuracy. They can be used for asphalt, tar, or residuum, where other flow meters are useless.

Disadvantages are:

1. They are not useful for accurately measuring free-flowing liquids (of low viscosity).
2. Since moving parts are used directly in contact with the liquid, there is the danger of these becoming fouled by solids or change of viscosity of the liquid being measured.
3. Variation in viscosity affects measurement.

The Venturi tube is used mainly where high accuracy is desired. Volatile liquids tend to vaporize upon sudden changes of pressure or with turbulence, causing erroneous readings. With the Venturi tube, static pressure head is temporarily changed to velocity head with very little turbulence (or vaporization) and with almost complete pressure recovery farther down the line due to its streamline characteristics.

Advantages of the Venturi tube are:

1. High accuracy.
2. High-pressure recovery (low-pressure loss).
3. Ease of transmitting readings to a remote point.

Disadvantages of the Venturi tube are:

1. High first cost.
2. Exaggerated effect of viscosity changes. (The Venturi tube is not practical for high-viscosity liquids for this reason.)
3. Lack of flexibility for varying volumes of flow.

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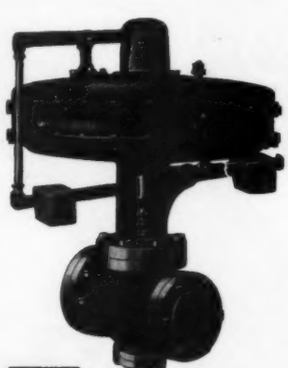

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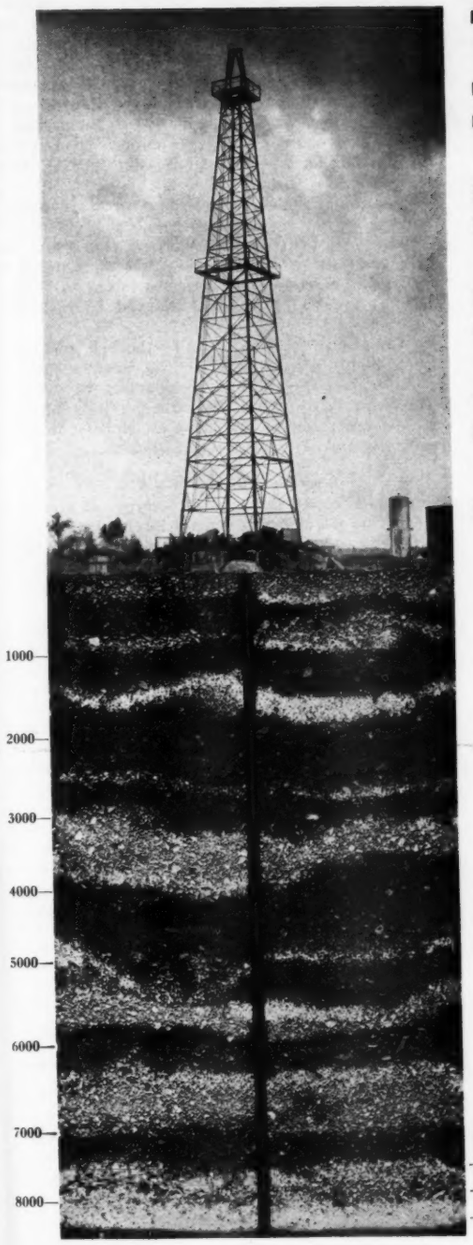

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The advantage of the Pitot tube lies in its simplicity and ability to measure velocities in a conduit.

Area meters record or indicate the area of a variable orifice necessary to maintain a constant differential pressure across the orifice. They usually consist of a draw-gate which slides up and down to vary the size of a rectangular orifice to maintain the constant differential. The opening of the "draw-gate" may be calibrated in units to give rate of flow.

Advantage of the area meters are:

1. Ability to measure highly viscous materials with fair accuracy. They can be used for asphalt, tar, or residuum, where other flow meters are useless.

Disadvantages are:

1. They are not useful for accurately measuring free-flowing liquids (of low viscosity).
2. Since moving parts are used directly in contact with the liquid, there is the danger of these becoming fouled by solids or change of viscosity of the liquid being measured.
3. Variation in viscosity affects measurement.

Differential-pressure-type meters adapt themselves readily to flow control as well as flow measurement. The manometer may actuate a control mechanism, which in turn actuates a control valve in the steam line of a pump, the discharge line of a pump, or in a speed-reducing coupling on a turbine-driven pump.

Flow-meter and controller readings may be transmitted to remote points by electrical systems. Orifice meter piping may run for a distance of 100 feet or so in a refinery to give remote reading and control.

C. Pump-stroke counters are used in determining pump displacement when corrected for volumetric efficiency of the pump and for temperature which gives the discharge volume. This method is not very accurate due to variations in pump slippage, vaporization, etc.

4. Tank gauges are a reliable means of determining volumes, and are ordinarily used as standards. Volume in this case, as in the others, must be corrected to standard temperature of 60° F.

E. The calibrated weir is an old form of measuring device which may have notches of different shapes. This is a combination area-head meter, both the area through which the fluid flows and the head causing the flow to vary at the same time. The measurement may be determined by a float gauge, used with either indicating or recording mechanisms, or merely by a calibration on the side of the weir.

F. The lifting ball type of meter is constructed with a ball or plug located in a conical graduated tube mounted vertically with the inflow at bottom and the outflow at top. Gravity supplies the constant head or pressure differential; and, as the flow increases, the plug or ball increases its height, giving indications of flow.

Pressure Measurement

Pressure-measuring and control instruments are used in refinery service for maintaining proper pressures on heating coils, vessels, and pumps—both as a matter of safety and as a matter of securing most efficient operation. Pressure instruments may be classified as follows:

1. Liquid-head, or manometer.
2. Bourdon-tube.
   (a) Spiral form.
   (b) Helical form.
3. Bellows:
4. Diaphragm.
   (a) Spring-loaded.
   (b) Weight-loaded.
5. Piston-type.
6. Inverted bell.

1. The liquid-head or manometer principle is used in the mercury barometer and the common U-tube. The rise or fall of a column of mercury is balanced by a pressure, until an equilibrium has been reached between the gravitational force due to the weight of the liquid and the force due to the pressure of the fluid whose pressure is to be measured. This principle is applied in the commonly inclined draft gauge, which is simply a glass U-tube filled with oil, with one of the legs of the gauge inclined at an acute angle to the horizontal to spread the scale.

Some of the advantages of manometer-type gauges are:

1. Ease and constancy of calibration.
2. Sensitivity at low pressures.

A few of the disadvantages are:

1. The range is limited to comparatively low pressures, since the height of the liquid column is limited.
2. With the measurement of pressure of corrosive fluids, seals must be used, which involve calculations to obtain corrections. Seals must also be used at high temperatures.

2. The Bourdon tube is the most practical measuring means for high pressures. About the year 1849 Eugene Bourdon of France discovered that the free end of a bent, flattened, elastic metal tube would move when pressure was applied, either internally or externally; that this motion was directly proportional to the pressure applied; and that the tube would resume its original position upon release of pressure. The modern pressure gauge utilizes this principle by transmitting the motion of the tube through linkages and gears to a pointer on a circular scale, or to a recording pen. The Bourdon tube may be made in a circular, spiral, or in a helical form to secure desired ranges or sensitivity.

Some of the advantages of the Bourton-tube gauges are:

1. The maximum pressure at which it is used is limited only by the strength and elasticity of the materials used.
2. It requires little attention beyond occasional checking and re-calibration.
3. It is rugged.

Disadvantages of the Bourdon-tube gauge are:

1. Lost motion in linkage due to poorly fitting parts or wear; causes a difference in reading on rising and falling pressure, which affects accuracy in some cases.
2. A change in elasticity of the metal used in the tube causes a change in reading which must be corrected at intervals.

As with other types of pressure instruments, the Bourdon tube measures the difference between atmospheric pressure and the pressure being measured. To obtain absolute pressure, barometric pressure must be added to the "gauge pressure," as indicated by the gauge, or the tube must be enclosed in a vacuum chamber.

3. The bellows type of pressure instrument is similar in theory to the Bourdon tube, and might even be classified as such. The pressure element consists of a metal cylinder with corrugations to allow elongation along the axis. This elongation is directly proportional to the pressure applied. The motion of the bellows upon change in pressure is transmitted to a pointer or a recorder.

4. The diaphragm type of pressure recordation utilizes the force due to pressure on a diaphragm as a measuring means. The diaphragm may be either "spring-loaded" or "weight-loaded." In the case of spring-loaded, the force on the diaphragm is proportional to pressure, and the elongation or contraction of a spring connected to the diaphragm is proportional to the force exerted. The "weight-loaded" diaphragm measures the force by means of a weight and lever.

(Discussion of "diaphragm pressure instruments" deleted.)

Safety valves are a necessary precaution for the refinery in guarding against excessive pressure. They are of two types, viz.: the pop-type and relieving-type. The pop-type opens instantaneously and completely for full-relieving capacity when pressures are reached above those desired. The relieving-type is a gradual opening valve for temporary release at capacities dependent upon the rate or extent of excess pressure generation.

5. Piston type of pressure instruments operate by displacement of a piston in a cylinder due to pressure, in much the same manner as a diaphragm is displaced. The piston may be either weight or spring-loaded. The chief difficulty in connection with this type is in avoiding leakage past the piston. When considerable motion of the piston occurs in measurement or control, the piston wears—causing leakage. For pop-type valves, however, pistons are well suited; since they are not required to move except in case of emergency. Piston-type instruments are subject to friction, and locking as a result of excessive friction must be avoided.

6. The inverted bell type of pressure instrument has some applications at low pressure. It consists of a cylinder with one end closed and the open end immersed in a liquid. Pressure applied on the inside of the cylinder causes liquid to be displaced, and the bell to be buoyed to a higher position.

Variation of the position of the bell with vacuum or pressure applied to the inside causes a pointer, recording pen, or controller to operate. The bell type of pressure instrument finds its main use on draft gauges for furnaces, since it is quite accurate at low pressures and vacuum.

Pressure Controllers

By connecting any one of the types of pressure-measuring devices to a control mechanism, a pressure controller results. Variations in pressure cause the controller to actuate a remote valve by means of liquid pressure, air pressure, or electrical means.

The spring-loaded diaphragm type of regulating valve become a constant pressure-pump governor when the pressure chamber over the diaphragm is connected (through proper seals) to the discharge of the pump, and the diaphragm actuates a valve in the steam line to the pump. Throttling of the steam input controls the pump-discharge pressure.

Bourdon-tube mechanisms may close electrical circuits to operate alarm signals to warn operators of excessive pressures at important points in the refinery unit. Deflection of a Bourdon tube as a result of pressure causes a mercury-tube switch to make contact, allowing current to operate a siren or "howler." At the same time that the siren operates, one of a number of lights is flashed to show, on the instrument-control board in the receiver house, the location of the excess pressure.

Liquid-Level Controls

The control of liquid level plays an important part in oil refining in parts of the unit such as:

1. Separation of gases and vapors from liquids.
2. Separation of immiscible liquids, such as oil and water.
3. Insuring liquid level in vessels to maintain pump suction.
4. Prevention of accumulation of liquid in high-temperature vessels.

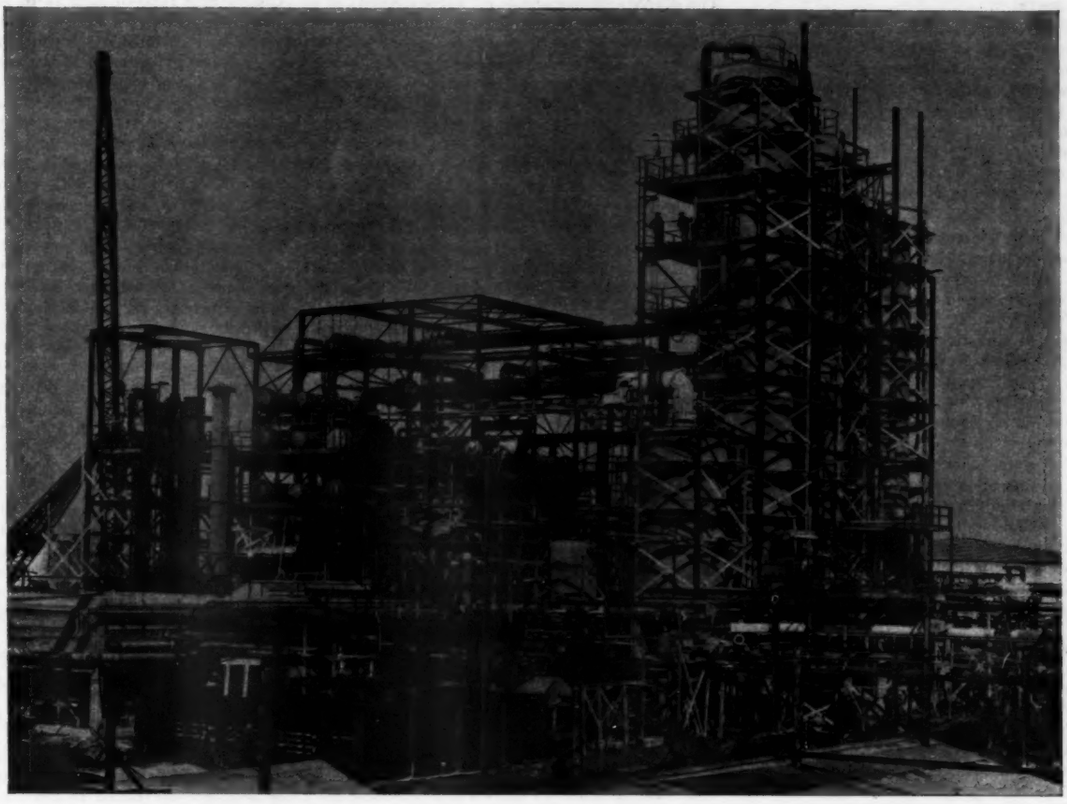
Two types of level controllers are primarily used in oil refineries—the manometer and float-type. The float-type is the more widely used of the two.

The manometer type of level controller operates on the principle of a difference in pressure between a liquid leg on the outside of the vessel and the head of liquid inside. A metal manometer, similar to that used in a differential-pressure flow meter, measures this pressure differential and controls in accordance therewith.

The float type of controller may assume a number of forms. It may be mounted inside the vessel and connected to the control system through a rotary shaft with a stuffing box, or it may be mounted outside the vessel in a smaller vessel called a "float cage." The internal-mounting type is the least expensive of the two forms, especially when a manhole is available to attach the float from the inside. When this is the case, no special nozzles are needed on the vessel, but the controller may be mounted in a small pipe tap large enough to accommodate the shaft and stuffing box. The internal-float type is better adapted to wide variations in level.

In many cases "averaging-control" or throttling is desirable in a liquid-level controller. This type

COMBINATION CRACKING UNITS



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allows the level to vary within limits with minimum operation of the control valve, but does not allow the level to get beyond the limits set. This controller is useful where a smooth type of operation is desired without interference with other instruments, and when "cycling" or hunting is likely to occur with close level control. "Averaging-control" may be achieved by means of especially shaped cams which cause the controller to function more vigorously when the level approaches the limits decided upon, but minimize the amount of control when the level is within the high and low limits set by the operator.

Remote level controllers transmit impulses to the control valve by means of air lines or, in some cases, by electrical means. Valves may be at a point remote from the controller with this type. Direct-connected level controllers operate with the float motion transmitted by levers and rods (or chains) to the control valve. The valve must be mounted almost directly above or below the controller, and does not operate very well at great distances from it.

Interface-liquid level controllers are used when two immiscible liquids, usually oil and water, must be separated. A distillate receiver for steam-distilled gasoline is an instance in which an interface controller is useful. The float ball used would be balanced to cause it to sink in gasoline, but not in water. The float actuates a valve in the water drain from the receiver, causing the valve to open when the water level rises; but is unaffected by a change in gasoline level. Another controller is used for the gasoline level.

Frequently level indication, rather than control, is desirable. Gauge glasses are not desirable in most cases of high-temperature operation, and may also become fouled upon exposure to "dirty liquids." Level indicators may be of the float-type, or the manometer-type, with the reading transmitted electrically or by piping to the instrument board. In some cases, level recorders are used.

An excellent way of transmitting level indications is by means of electric lights. With this system, the float actuates rotary or mercury-tube switches flashing colored lights to show the fluid-level limits on the instrument board. By having one light for high and one light for low, with normal levels, and two lights on at a time for intermediate points, five level positions can be indicated by the use of three lights.

In many cases the use of a level controller with a valve in the steam line to a pump or in the discharge line acts as a flow controller, when other conditions remain constant, and when the pump draws suction from or discharges into the vessel in which the float is located.

Control Valves

Without careful design of control valves, the best of controllers could not function properly. A control valve must have desirable flow characteristics, be designed to withstand pressure, temperature, corrosion, erosion, and be free from excessive friction and from a tendency to become fouled by coke or asphaltic material.

Improvements in various factors which influence controllers have been made through suggestions and willingness of refiners to install instruments on trial. Instrument characteristics, as well as those of valves, have been changed to meet certain requirements as a result of experience in operation. Proper relation between the instrument and the valve has been worked out for better correlation. A firm of consultants in oil refining have an experimental unit in which developments along this line have taken place. For example, on a chamber draw-off line, where the temperature ranged from 880° F. to 920° F., the upstream pressure being from 200 to 475 pounds per square inch with a downstream pressure of 75 pounds per square inch, considerable trouble was experienced from coking, sticking of the valve, breakage of the stem, and burning out of the packing. The plugs, seats, rings, and any part of the valve coming in contact with the flow were streamlined to overcome coking. The stem was extended and ball-bearing guides used to prevent stickiness, and an air-cooled packing box was so arranged as to eliminate burning-out of the packing. Erosion and corrosion were prevalent, and this was overcome through the design and the materials used. This valve was handling a mixture of gas, gasoline, and residuum. Today the development is such that this is no longer considered a major problem.

Control valves are actuated by different methods. They may be opened or closed directly by a float, by an electric motor, by a solenoid electromagnet, by hydraulic pressure, air, gas, or steam pressure on a piston or diaphragm. For oil-refinery work, the use of air-operated diaphragm motor valves has been most common.

The diaphragm motor-control valve consists of a globe or angle valve, the plug of which is raised or lowered by means of air pressure on one side of a diaphragm and spring pressure on the other. The degree of opening of the valve is varied by changing the air pressure on the diaphragm. As a rule, the most desirable flow characteristic of the valve is that in which the open area varies as the square of the percentage lift of the valve plug. To achieve this type of flow, two types of plugs are used—the V-port, which is a sleeve-valve construction, with triangular shaped openings or ports; and the parabolic plug, which is similar to the ordinary globe valve, except that it is machined to give the proper parabolic flow characteristics. Double plugs are most common, although a single one may be used. Single plug control valves require large-diameter diaphragms for exerting sufficient force to move the plug.

The following formula is used in determining the size of the control valve which is used to control liquid flow:

$$d = \sqrt{\frac{Q}{K}} \times \sqrt{\frac{G}{H}} \qquad (3)$$

where:

d = nominal valve size, in inches.
Q = flow of liquid (hot volume), in gallons per minute.
K = a constant.
G = flowing specific gravity of the liquid.
H = differential pressure across the valve, in lbs. per sq. in.

Let us suppose a valve is to handle 100 gallons of liquid per minute (volume at 60° F.) of 30-degree-A.P.I. 0.9340-specific gravity (at 60°), with the upstream pressure on the valve 100 pounds per square inch, when the temperature of the liquid is 500° F. A common value for K, for liquids, is 10 (although the value of K varies with valves of different construction, and must be determined for any line of valves).

It is desirable to have a differential pressure across the valve such that the valve, and not the line resistance, is in major control of the flow. Let us assume in this instance that H = 25 pounds.

Then:

Q = 100 × expansion of 20-deg.-A.P.I. oil at 500° F.
= 100 × 1.24
= 124 gals. per min., hot volume.

$$G = \frac{0.9340}{\text{Expansion}}, \text{ or } \frac{0.9340}{1.24}$$

= 0.753 hot specific gravity at 500° F.
H = 25 lbs. per sq. in.

Since the normal flow is 124 gallons per minute, the valve may be designed for a maximum flow of 248 gallons hot volume. (This will depend upon the system.)

Substituting in equation (3):

$$d = \sqrt{\frac{240}{10.0}} \sqrt{\frac{0.753}{25}}$$

$$= \sqrt{4.31}$$

$$= 2.08 \text{ in.}$$

Since doubling the normal flow to get maximum flow was somewhat arbitrary, the next lowest nominal valve size, 2 inches, would be used in this case—although, as a rule, the next largest size is used.

Gas and vapor flow-valve sizes are calculated in somewhat the same manner, but they are slightly more complicated—and will not be described here.

In designing control systems, it is good practice to allow a substantial ratio of pressure drop across a control valve to that in the connecting system (from 100 to 200 per cent of the line resistance or friction drop); since a control valve provides more effective control under these conditions.

When throttling control is not desired, the ordinary disc type of plug is to be preferred to the parabolic. In cases where a valve opens to allow steam to a turbine-driven centrifugal pump, in case of failure of a motor-drive, the parabolic flow characteristics are unnecessary; since the valve is either fully open or closed. In cases where valve lift is small, as on a pump-pressure governor, disc-type plugs are used.

Selsyn motor-operated valves are valuable in controlling pressure and flow from a remote point. This device is a self synchronous system used as an electrical means of transmitting angular motion between a valve located at one point in a plant and controlled remotely from another which cannot conveniently be mechanically interconnected. The accuracy of the motion transmitted varies with the amount of torque required by the load, the size of unit used, and the acceleration and operating speed of the system. It is a bipolar rotating field three-phase alternator system. The rotor is wound with a single-phase concentrated winding; the stator with a three-circuit distributed Y-connected winding. Electrically a "Selsyn" acts as a transformer with voltages and currents all single phase. The rotor winding is excited from an alternating voltage source. By transformer action voltages are induced in the three elements of the stator winding, the magnitude depending upon the angular position of the rotor. If one rotor is displaced by a certain angle the other rotor takes the same position, thereby balancing the stator voltage due to the torque set up by angular displacement which causes a current to flow in the windings. This circulating current reacts on the excitation flux providing a torque tending to turn the rotors to a point where the induced stator voltages are equal and opposite. A hand wheel is provided on the transmitter motor and through the indications on a meter or pressure gauge the flow or pressure controlled to meet requirements. The receiver motor is mechanically connected to the valve with proper gearing to the valve stem for obtaining the required operating torque.

This system works where coke formation is not allowed to become too great. Manipulating the valve periodically, using the hand-wheel on the transmitter, will tend to free the valve of coky material. Consideration must be given to the ultimate required torque for operating the valve to prevent phase slippage, as burning out of the windings will result if angular displacement is held for a period of time. Precaution should be taken to guard against this by not trying to lock the transmitter in one position.

Specification of Operating Conditions for Control Instruments

It is highly important that the instrument manufacturer know as closely as possible the operating conditions under which his equipment must work. The following will serve to illustrate how these are supplied in refinery design.

In the case of a temperature controller with the valve in the steam line to a pump, the following conditions must be known:

Location of bulb.
Length of capillary tubing.
Type and size of pump.
Suction pressure, in lbs. per sq. in.
Discharge pressure, in lbs. per sq. in.
Steam pressure, in lbs. per sq. in.
Exhaust pressure, in lbs. per sq. in.
Control operating temperature—minimum-normal-maximum.
Quantity of heating or cooling medium at 60° F.
  Minimum, in gals. per min.
  Normal, in gals. per min.

Maximum, in gals. per min.
Flow temperature of heating or cooling medium.
Gravity of heating or cooling medium at 60° F. A.P.I. gravity.
Special conditions: (if any).

For pressure control with the control valve in a gas line, the following conditions must be known:

Location.
Line size, in inches.
Gas flow at 14.7 lbs. absolute and 60° F.
Minimum, in c.f.h.
Normal, in c.f.h.
Maximum, in c.f.h.
Up-stream pressure, in lbs. per sq. in.—minimum-normal-maximum.
Downstream pressure, in lbs. per sq. in.—minimum-normal-maximum.
Differential pressure, in lbs. per sq. in.—minimum-normal-maximum.
Flowing temperature, in deg. F.
Specific gravity of gas at 14.7 lbs. absolute and 60° F.
Special conditions: (if any).

For flow control with an orifice plate or Venturi tube in the discharge of a pump and the control valve in steam line to pump, the following conditions must be known:

Pump; size, type, etc.
Size line at orifice, in inches.
Flow, at 60° F.
Minimum, in gals. per min.
Normal, in gals. per min.
Maximum, in gals, per min.
Flowing temperature, in deg. F.
Viscosity at flowing temperature, in seconds (Saybolt Universal).
Gravity of flowing liquid, at 60° F., in deg. A.P.I.
Suction pressure, in lbs. per sq. in.—minimum-normal-maximum.
Discharge pressure, in lbs. per sq. in.—minimum-normal-maximum.
Differential pressure — minimum-normal-maximum.
Steam pressure, in lbs. per sq. in.
Exhaust steam pressure, in lbs. per sq. in.

For level control with the control valve in the steam line to a pump, the following conditions must be known:

Location.
Valve line size, in inches.
Pressure in vessel, in lbs. per sq. in.
Gravity of oil in vessel at 60° F., in deg. A.P.I.
Temperature of oil in vessel, in deg. F.
Pump size and type.
Quantity of oil pumped at 60° F.
Minimum, in gals. per min.
Normal, in gals. per min.
Maximum, in gals. per min.
Temperature of oil pumped, in deg. F.
Gravity of oil pumped at 60° F., in deg. A.P.I.
Pump-discharge pressure:
Minimum, in lbs. per sq. in.
Normal, in lbs. per sq. in.
Maximum, in lbs. per sq. in.
Pump-suction pressure:
Minimum, in lbs. per sq. in.
Normal, in lbs. per sq. in.
Maximum, in lbs. per sq. in.
Pump-differential pressure:
Minimum, in lbs. per sq. in.
Normal, in lbs. per sq. in.
Maximum, in lbs. per sq. in.
Steam pressure in lbs. per sq. in. in deg. F. (total temperature or super-heat).
Exhaust-steam pressure, in lbs. per sq. in.
Rising float to (open) or (close) valve.
Special conditions (corrosion, etc.).

The foregoing conditions required to determine type, range of controller, and valve sizes illustrate what is required in installing controllers. It must be remembered that the purpose of other controls are not to be interfered with. For every process, there is one best set of conditions.

("Paragraph on "servicing instruments" deleted.)

It goes to work early

Here are two things a wise refiner can do when his tanks are full of straight-run gasoline he can't sell:

1—Reform it to market octane specifications—or better.

2—Not make any more of it.

Here is what Parsons will do for such a wise refiner.

He will design and build him a Dubbscracking unit that begins to pay for itself even before it is finished.

How? By careful planning.

First he builds the furnace (in record time) and it starts reforming the stored gasoline—paying its way and then some. That means sales and profits for the refiner while Parsons finishes the job.

About the time the straight-run tanks are empty the rest of the unit is completed and ready for its regular job—converting any kind of crude (or any other oil) into Dubbscracked gasoline—and no straight-run.

Parsons has done that for more than one refiner.

He will do it for you, too.

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QUESTIONS ON TECHNOLOGY

By Charles K. Francis, Ph.D., Technical Editor

Cannon Process for Sweetening With Special Mixture

A solid material of special composition has been mentioned as used in the Cannon Process for treating light oils. This material replaced the doctor solution. Could you furnish me with the composition of this material, with a description of the process?—D. W. C.

The Cannon Process is applied for the sweetening of light oils which is based on a combination of chemical action and filtration. The chemical action being similar to that of the doctor treatment. The mercaptans are changed to the disulfides and a precipitate of lead sulfite is produced, which reacts with the lime to form calcium plumbite, the end product being calcium sulfide.

The material contains hydrated lime, sodium hydroxide, litharge and very finely divided diatomaceous earth. The proportions are reported to be as shown in the table.

CANNON TREATING REAGENT

Substance:	Parts
Sodium hydroxide	3
Calcium hydroxide	25
Litharge	16
Diatomaceous	22
Water	34

The lime is added to the caustic solution to form an emulsion, then the litharge and finally the earth is thoroughly incorporated, the product being a damp powder.

The operation is continuous in which the oil slowly flows upward in one tower through a loose mass of the partially spent reagent into a second tower, where it passes down through a bed of fresh reagent. Free sulfur is added as in doctor sweetening. The contact time many range from three to seven minutes.

Two adantages are claimed for the Cannon Process: It is said that one ton of the reagent will sweeten from 20,000 to 100,000 bbls. of raw distillate and there is very little loss of lead.

References: Petroleum World, June, 1930, p. 95. U. S. Pats. 1,789,168, Jan. 13, 1931, and 1,802,628, April 28, 1931.

Equivalent Gas Volume of One Gallon of Gasoline

When a volume allowance is made for the gasoline extracted from natural gas, what is the usual figure to use on the basis of cubic feet of gas to one gallon of liquid?—L. O. K.

In the early days of the natural gasoline industry, about 1917, when considering the possible reduction in the quality of natural gas due to the extraction of gasoline, it was suggested that the liquid removed was equivalent to about 35 cubic feet of gas per gallon of liquid and this ratio has been widely used since then as an approximate value for estimated purposes. It is true that the accurate relation can be determined only by analysis, the methods for which have been so improved that it is now possible to make this form of analysis in a relatively short time. The derivation of the 35-cubic-foot value appears to be supported by the work of R. P. Anderson (1919) which was cited by Oberfell and Alden in "Handbook on Natural Gasoline."

The volume of gas, cubic feet, was calculated from a formula in which the weight of a gallon of water (8.328 pounds) and the weight of a cubic foot of dry air (0.765 pounds) were the constants. The formula for 60° F. and a pressure of 30 inches of mercury being expressed:

$$\frac{8.328}{0.0765} \times \frac{\text{Sp. gr. hydrocarbon } (H_2O = 1)}{\text{Sp. gr. hydrocarbon } (\text{Air} = 1)}$$

The values for the lower hydrocarbons as reported by Oberfell and Alden and standard authorities are shown in this table:

CUBIC FEET OF VAPOR
(Per Gallon)

	O. & A.	Others
Methane	50.6	...
Ethane	46.7	39.2
Propane	38.2	35.5
Butane	32.5	32.5
Pentane	27.3	29.7
Hexane	24.2	27.6
Heptane	21.6	21.6

Making use of the latest investigations and analyses of natural gasoline these conclusions follow: Natural gasoline of 26 pounds vapor pressure contains about 26 per cent butane and at atmospheric pressure should be equivalent to 27 cubic feet of gas per gallon. A 12-pound natural, which is butane-free, containing 50 per cent pentane, may yield 25.2 cubic feet of gas to the gallon. A 4-pound gasoline, free from pentane, with hexane and heavier present, yields 25.5 cubic feet per gallon.

References: R. P. Anderson, Ind. Eng. Chem., 11, 299, 1919. Oberfell and Alden, Handbook on Natural Gasoline, p. 3. Landolt's Tabellen, International Critical Tables. Garner and Miller, The Oil and Gas Journal, June 16, 1927, p. 137. Francis, same, July 23, 1931, p. 102.

Liquids for Solvent Extraction

The organic compounds mentioned here were among those named in the discussion of—Standing of Liquids Suggested for Solvent Extraction Methods, on page 52 of The Oil and Gas Journal, May 7, 1936.—Editor.

Attention has been called to several misstatements appearing on this page in the issue of May 7, 1936, concerning the chemical composition of certain glycol derivatives. These should have been explained as:

1. Cellosolve acetate is the acetate of the ethyl ether of ethylene glycol.
2. Butyl Carbitol is the monomethyl ether of di-ethylene glycol.
3. Methyl Cellosolve is the monomethyl ether of ethylene glycol.
4. Cellosolve is the monoethyl ether of ethylene glycol.

Since Cellosolve and Carbitol are trade-marked names, these words should always be capitalized when used by themselves or as a part of associated compounds.

SPECIFICATIONS

ILLUMINATING OIL OR 300° MINERAL SEAL

A petroleum distillate free from water and suspended matter.

Burning test, hours, min	20
Flash °F., min.	250
Cloud point, max.	32
Flock test	negative
Reaction	neutral
Color Saybolt, min.	16

At the end of the burning test, the flame shall not be smoky, the chimney shall be clear or only slightly clouded, and no appreciable incrustation shall be on the wick.

Use: Suitable for use in lamps in passenger coaches and for illuminating railroad equipment, and where a high-flash illuminant is required.

Reference: Federal Standard Stock Catalog, VV-0-391, Sec. IV, part 5.

Relation of the Gravity Test to the Volatility of Gasoline

What is the origin of the idea that gravity may serve to indicate the volatility of gasoline?—W. W. S.

The literature reveals that the gravity test, when made by means of a hydrometer, was introduced during the very early days of the industry for the purpose of grading crude oils and the several petroleum products. The hydrometer indicating degrees Baume, an instrument that had been arranged for use in liquids lighter than water. The scale was similar to the A.P.I. graduations, with the lowest number 10 being equivalent to water, and increasing as the specific gravity of the liquid decreased or became lighter. We now know that the most volatile liquids of the petroleum group are those having the highest A.P.I. and Baume indications.

The United States Census Report No. 70, on Petroleum Refining, by C. E. Monroe, published in 1905, discusses the gravities of some of the more volatile petroleum liquids, well known at that time: Naphtha and gasoline embraces pentane, boiling point 100.4° F. and real specific gravity 0.625, which is used for making the standard of light flame in protometric work; petroleum ether, boiling point 104° to 158° F., Be. gravity 85° to 80°; the boiling point of 76° Be. gasoline was given at 158° to 194° F., having a specific gravity between 0.66 and 0.69, or 80° to 75° Be. This was known under several other names, including Petrol, 680 spirit, motor spirit, carburine, and boulevard gas fuel. Danforth's oil, ordinary spirit and naphtha was said to boil between 177° and 230° F., was used as petrol in motor cars, for burning in vapor stoves and street lamps, and as a solvent. Stove naphtha had a Be. gravity of about 70°. Ligroin, 67° to 62° Be., was a laboratory solvent and used for burning in sponge lamps.

"In the refinery all of the above mentioned fractions may be included in the substances known as A-naphtha 64° to 60° Be.; B-naphtha 68° to 64°; C-naphtha 80° to 68° Be. All petroleum distillates having a gravity above 60° Be. may be styled naphtha and gasoline. The use of the term "high test," frequently used today, originated in the use of this term as first applied to gravity.

Analysis of Oil From San Patricio County, Plymouth Field, Texas

I would appreciate distillation and other characteristics of what is known as San Patrico crude oil, from Texas?—L. H. A.

ANALYSIS SAN PATRICIO OIL

San Patricio County, Plymouth Field, Texas
Well No. 1-C Welder

Gravity	31.5° A.P.I.
Viscosity	38 at 100° F.
Sulfur	0.14%
Products—	Per cent
Gasoline	30.83
Gr. 52.8 A.P.I.	
Init. 148° F.	
E.P. 419° F.	
Gas oil	27.83
Gr. 32.2 A.P.I.	
Init. 414° F.	
E.P. 548° F.	
Fuel oil	40.29
Gr. 17.7° A.P.I.	
Fl. 325	
Fl. 365° F.	
Vis. 393 at 100° F.	
Loss	1.05
Total	100.00

This oil is from the discovery well from 5,500 feet, which opened a new producing sand in the Plymouth field. Initial production from recent wells ranges from 8 to 40 bbls. an hour.

EVERY OIL DISTRIBUTOR KNOWS

VALUE

goes deeper than price

IT IS a common error to confuse the words "price" and "value." Actually, "value" is what you get for the price you pay.

Ford believes "value," as applied to trucks and commercial cars, should be a combination of high quality at low price with superior performance at low cost . . . that it should include low operating cost, low-cost maintenance and long-lasting, brilliant performance. The experiences of truck and commercial car owners indicate that they agree with Ford's idea of value.

Further evidence comes from the cost records of owners. These records prove that V-8 Economy is OVER-ALL ECONOMY . . . that it includes savings in fuel and oil, tires, taxes, license fees, insurance, interest, wages, depreciation, capital investment and repairs.

Ford V-8 Truck and Commercial Car "VALUE" goes deeper than price. True appreciation of V-8 Value comes only after tens of thousands of miles of reliable, economical service. But your Ford dealer invites you to "sample" V-8 Performance . . . a vital element of V-8 Value . . . under your own operating conditions. Call your Ford dealer today and set a date for an "on-the-job" test.

• • •

Any new 112-inch wheelbase Ford V-8 Commercial Car can be purchased for $25 a month, with usual low down-payment. Any new 131½-inch or 157-inch wheelbase Ford V-8 Truck can be purchased with the usual low down-payment on the new UCC ½% per month Finance Plans.

FORD V·8 TRUCKS

AND COMMERCIAL CARS

PROBLEMS FROM READERS

Edited by T. F. Smiley

Two Types of Seismograph Surveys Used in Petroleum Prospecting

Is there more than one method of using the seismograph in prospecting for petroleum? If so may I ask you to tell me what they are? I wish you would tell me too which of the various geophysical methods are employed in the oil industry. Is the use of geophysical instruments in the oil business still growing or have they about reached the end of their usefulness? Could not the geologist do a great deal of the work that has been done with geophysical instruments and perhaps at less expense?—D. E. N.

There are two types of seismographic surveys, the refraction and reflection. By the refraction method a profile is obtained from a single shot point and the data obtained permit the construction of a time-distance curve. The reflection method consists in shooting and recording on a detector reflected elastic waves that have passed through the various intermediate strata until reflected to the surface by striking some harder or marker bed, thereby giving data upon the relative elevations of horizons usually 4,000 to 5,000 feet beneath the surface.

Of the various geophysical methods only the magnetic, gravimetric, electric, torsion balance, pendulum and seismograph are applied to oil prospecting. In actual operation all geophysical exploration consists of two equally important steps, the measurement of physical effects and the translation of such data into geologic terms.

The magnetic method, the oldest, is the most rapid and cheapest geophysical method of surveying. It is chiefly valuable for reconnaissance work and is now usually followed in areas where the prospects are indicated as favorable by other methods. This instrument depends upon the variations in the earth's magnetic field for its operation and records the magnetic anomalies produced by masses of rock of different density.

The pendulum and torsion balance instruments depend upon gravity variations. The older pendulum method depends upon determination of the period of oscillation of a pendulum, while the newer torsion balance method determines the direction and magnitude of the gravity gradient or a horizontal rate of change of a function of gravity and differential curvature.

The seismograph long has been used to record earthquake shocks and it uses the same general principle in the oil fields. Miniature earthquakes are caused by geophysical crews, who explode dynamite in shallow holes and then observe the time interval between explosion and return of the elastic wave to geophones set in a fan-shaped position around the recording instrument.

As to whether the use of geophysical instruments in the oil industry is still growing it may be stated with emphasis that, far from approaching the "end of their usefulness," as you suggest, they have just made a good start. An idea of the strides geophysics has been making in oil prospecting may be gained from the fact that in 1935, according to estimates, oil companies of this country spent $16,317,500 in this kind of prospecting. This is more than $5,000,000 in excess of what was expended for similar work in 1934. The coming years are expected to see still more remarkable advances as the oil industry seeks to meet the growing demands upon it. Many new devices or improvements upon old ones appear from time to time. Some prove their worth. Others prove valueless.

Although geophysics in some degree has supplanted older geological methods of investigation, it may be said in general that the two methods do not overlap. Working from surface indications, the geologist finds anticlines, with their promise of oil. But some of the most prolific areas offered no surface indications to provide a starting point. In the Gulf Coast, for instance, geophysical prospecting has opened rich oil fields where no surface signs of oil were observable.

Method Employed in the Application of Chemicals to Crude Emulsions

I want to ask what method is used in applying treating chemicals to crude oil emulsions at the well in connection with the heating outfits which you recently described in your Field Problems department. What equipment is it necessary to have?—D. T. K.

There are several ways to apply chemicals to emulsified oil in connection with the heating process to which you refer. The best known are the "lead-line" and the "down-the-hole" methods. In the lead-line method the treating chemical is introduced into the lead line at some point between the well and the heater. In down-the-hole treating the chemical is poured or pumped down the annular space between the tubing and the casing with either water or fluid from the well put down behind it to wash it thoroughly to the bottom.

One of the most common means of introducing chemical is by use of small chemical proportioning pumps. These pumps, of various sizes and capacities, are powered in several different ways. They may be powered, in case of the ratchet-driven pumps, by a wire connected to the walking-beam at such a point as to deliver to the pitman on the pump the proper stroke. In the case of the belt-driven pumps they may be powered by a 1-inch leather belt from the bandwheel shaft on the back side of the bandwheel.

These have pumping capacities ranging from 1 pint to 3 gallons a day, depending upon size of the plunger, length and number of strokes. Most pumps have reservoirs, and capacities of these range from 4 pints to 3 gallons.

WHY THEY CALLED IT

Peggs

Peggs, in Cherokee County, Oklahoma, lies in a region of pronounced interest to the oil industry, although efforts to find oil or gas have met little success. Here it is possible to study at the surface the character and structure of many formations which are penetrated by the drill in oil pools to the west. Peggs was named for a man who settled in the vicinity almost 80 years ago. It possesses the distinction of having suffered greater loss from a tornado in life and property than any other town in the United States in proportion to its size. On the afternoon of May 2, 1920, a cyclone struck Peggs, killing 63 persons out of a population of about 200, injuring 100 others and destroying virtually all the buildings.

"Rocking the Well" Often Is Resorted to as Means of Starting Gas-Lift

There is a way of starting a well on gas-lift which is referred to as rocking the well. I believe it is resorted to where difficulty is encountered in getting the well started by ordinary methods and where there is danger of damaging the well through use of excessively high pressures. I am not familiar with this method called rocking the well and I would appreciate an explanation of it.—L. A. G.

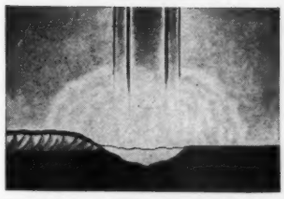
The pressure needed to start a well flowing by gas-lift is two to five times that required in normal operation. This is because the column of fluid in the well, being unaerated, is much more dense than the mixture of oil and gas that flows after regular production has been established. To keep this starting pressure as low as possible in order to avoid forcing oil back into the formation a back-and-forth manipulation of the gas flow is resorted to in some cases and this manipulation is called "rocking the well." It is accomplished by forcing gas first down the tubing and then down between the tubing and casing. Discussing this means of starting a flow without resort to excessive pressure, H. C. Miller, writing on "Mechanical Installations for Gas-Lift Pumping," says:

"In order to reduce the required starting pressure as much as possible, so as to avoid excessively high pressures which might injure many wells by forcing the oil back into the formation, provision is made at the casinghead at many wells to reverse the flow of gas down the well. The gas intake line to the well is so arranged that by manipulating certain valves in the gas line, the gas is caused to flow first down the tubing and then down the annular space between the tubing and the casing. Often two or more reversals of direction of the gas flow are necessary to start the flow. This method of starting the flow of oil is known as 'rocking.' The oil can be forced out of the tubing and aerated at a lower pressure than would be required were the direction of flow of gas down the annular space between the tubing and the casing and the attempt made to aerate the oil in the tubing, or to blow it out without first lightening it with gas. This is true because of the difference in cross-sectional area of the tubing and the space between the tubing and the casing.

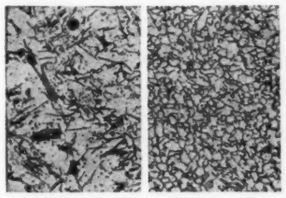
"For example, let us suppose that the fluid level in a well stands 500 feet above the bottom of a string of 2½-inch tubing suspended inside of 6¼-inch casing. The total volume of oil within the tubing is 16 cubic feet. The volume of oil outside the tubing is 69 cubic feet. When sufficient pressure is applied at the tubing head to force all the oil out of the tubing, the fluid level outside the tubing is raised 116 feet and the pressure necessary to empty the tubing of oil is 243 pounds per square inch if frictional losses are neglected and oil free of gas pockets and of 24 A.P.I. gravity is assumed. On the other hand, if the source of gas pressure is at the casinghead, the oil in the tubing will rise 2,123 feet and, again neglecting friction losses, the pressure required to force all the oil into the tubing will be 1,036 pounds per square inch. It is evident from the above that lower starting pressures are necessary when a well is rocked at the start or after a period of idleness.

"Inlet gas connections should be so arranged that gas may be introduced through the tubing, or between the tubing and casing. These connections are made in order that the fluid column in the well may be rocked until the oil becomes sufficiently aerated to start the well flowing with the lowest possible working pressure. In deep wells, it is necessary to rock the column several times in order that the well can be started."

Technically Speaking



In welding with the Lincoln shielded arc, fusion takes place within a protective gaseous enclosure. The elements of the air cannot contact the molten metal; hence oxides and nitrides, which embrittle and weaken the usual weld, are excluded. The weld deposit is pure, homogeneous and in most cases of physical qualities superior to those of mild rolled steel.



These photomicrographs (enlargement, 100 diameters) show the grain structures of two welds. On the left is an ordinary weld; note the "nitride needles" and oxide pores. Contrast this to the weld on the right, made by the Lincoln shielded arc. Fine-grained welds like this are extremely strong, ductile and corrosion-resisting.

● "Glance at the test specimen. Two welds are shown after they had skirmished with a strong corrosive solution for 72 hours. The upper weld, made by ordinary methods, couldn't withstand the severe attack. And look at the mild steel plate . . . it, too, shows signs of pitting. The lower weld, made with 'Fleetweld' electrodes and a '*Shield-Arc*' welder, appears as good (and it *is* as good) as it was before the battle.

"You get dense, homogeneous welds every time when you specify the Lincoln shielded arc. Or, if you want to go still further and produce columbium-bearing welds in metals of high corrosion resistance (such as stainless steel), specify the shielded arc with 'Stainweld' electrodes.

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4 REASONS

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Petroleum Engineering Courses Grow at University Built on Oil Revenue

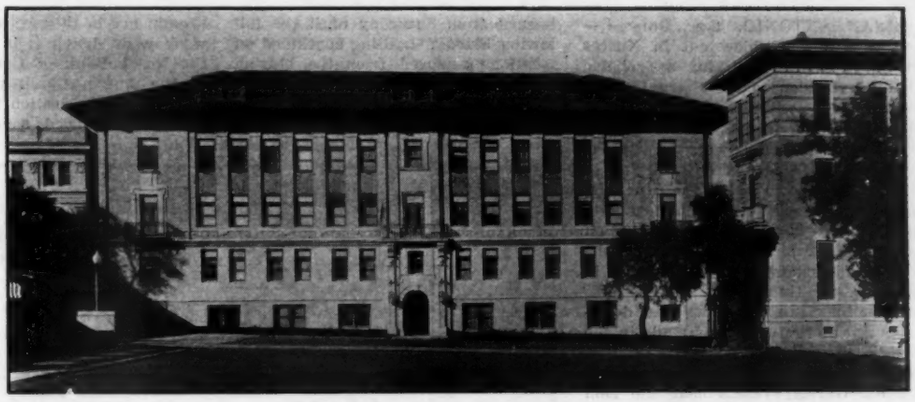
By W. D. HORNADAY

AUSTIN, Tex., June 1.—In large part the University of Texas owes the accomplishment of a $10,000,000 building program upon its campus at Austin to the income received during the past 12 years from oil produced from its lands in West Texas. Blocks of these lands are situated in several counties and six separate oil pools are being developed upon them. The total land endowment of the university embraces 2,000,000 acres donated to that institution by the state more than 50 years ago.

In full keeping with the prominent part the oil and gas industry has had to do with the expansion of the physical plant of the university, that institution has, in its curriculum, courses in petroleum engineering. The teaching of the various phases of this subject, together with the laboratory and research work connected with them, has brought the university into close contact with the oil industry. Not only do the operators give the work the College of Engineering is doing along this line their earnest support, but they receive therefrom much knowledge from laboratory research that they are able to apply in a practical way, especially in the production of crude oil.

Although the first course in petroleum engineering at the university was not established until 1928, with about 10 students, the enrollment has increased to 123 students who are taking the courses during the 1935-1936 long session. Of this number, eight are candidates for the bachelor of science degree and one for the master of science degree. Besides the 123 students who enrolled for petroleum engineering for the current session 197 others are taking preliminary courses preparing to major in petroleum engineering. These required courses include civil engineering, mechanical engineering, chemistry, physics, geology, and mathematics. The teaching staff of the department of which F. B. Plummer is chairman, has grown from one full-time member in 1928 to three full-time members in 1935-1936.

The laboratory equipment of the petroleum engineering department is of the most modern type. In its larger laboratory the facilities enable students to make every oil field test petroleum engineers are called upon to make in the field. These include, among others, core valuations, porosity and permeability of sands, water drive, bottom-hole pressure, gas repressure, water flooding, and crude gravity tests. In the laboratory, sands which come from North Central Texas, East Texas and Southwest Texas are being tested, the results of which will be made available to the industry in printed form. A new laboratory has been established in the department this year where research in gas flow and measurement is being made.



Geology Building of the University of Texas at Austin

Donations of equipment valued at $3,000 has been made to this new laboratory by Lone Star Gas Co., Young Engineering Corp., United Gas Co., Texas Public Service Co., Houston Gas & Fuel Co., H. Richards Oil Co., and the city of Austin.

"It is the purpose of the petroleum engineering department of the university to inform and equip its students along the most practical lines," E. C. Sargent, instructor in petroleum engineering, said: "That this is accomplished is shown by the fact all of its graduates have taken immediate employment. Of the 68 former students now holding engineering positions in the oil industry, 13 are employed in geophysics. At this time oil operators are very much interested in the research we are doing in permeability of sand and acid treating of wells."

The teaching staff uses for its texts practically all of the current magazines of the oil industry. The students are given assigned readings in these magazines and files of them are kept for references.

The department has given its students a practical insight into drilling operations by drilling a well on the university campus. This well is about 300 feet deep and is equipped with casing. Later tubing will be placed and pump installed.

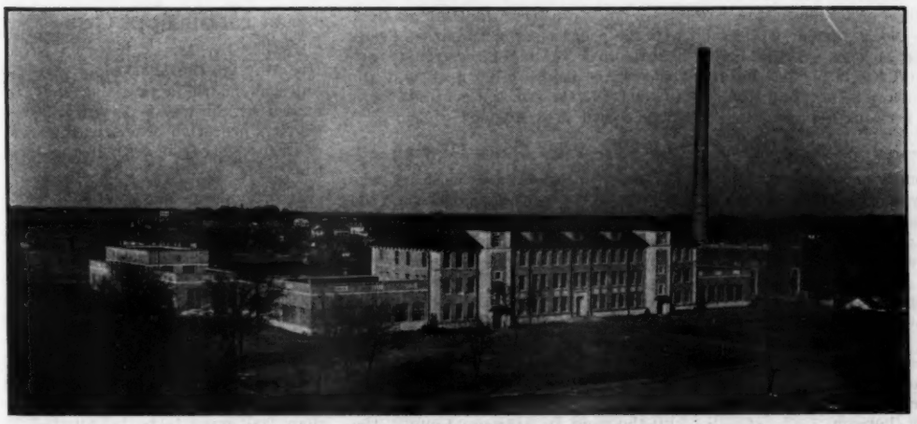
The department has on display a large and interesting collection of oil field equipment given it by operating companies from time to time. This equipment shows the progress that has been made in mechanics and methods of oil production since the industry had its beginning in Texas.

As an evidence of the interest producers and others are taking in the students who receive their training in the university, the railroad commission recently selected a group of 12 coming graduates in petroleum engineering and paid all their expenses and 50 cents each per day for a trip of inspection of the East Texas field. It is expected most of these young engineers will be employed on the field staff of the commission when they receive their degrees.

In a financial sense, the gift of 2,000,000 acres to the university at the time it was made by the state was of little worth, the land having a sale value of only a few cents per acre. Upon a block of this land in Reagan County oil was discovered on May 27, 1923. It marked the opening of the Big Lake oil field, which now contains a group of the deepest producing oil wells in the world, ranging from 8,525 to more than 9,000 feet, and overlaid with a shallower producing sand only about 2,000 feet below the surface. Following the Big Lake wildcat discovery, five other fields in as many counties, all on university lands, have been developed and are contributing a share of the wealth to that institution of higher learning.

It was not until late in 1924 that the income of the university from oil attained any magnitude. The payments from lease bonuses, rentals, royalties and other allied sources have mounted to a total of more than $22,000,000 since. Before the railroad commission established the policy of proration and during the period when the product was selling for peak prices, the monthly income of the university averaged approximately $250,000 a month. It now runs about $65,000 a month. It is the expressed belief of petroleum engineers that the potential oil wealth, including known recoverable reserve and, possible new producing areas, is enormously large. From these same 2,000,000 acres the university also received an annual income of approximately $225,000 from grazing leases held by ranchmen.

All of the institution's oil money goes into its permanent fund. The income from this fund which is invested in high class securities, is divided, two-thirds going to the university and one-third to the State Agricultural and Mechanical College.



Engineering Building of the University of Texas at Austin

Southwest Texas District

By
GEORGE WEBER

WILDCAT IN NUECES COUNTY BLOWS IN FOR 2,000 BARRELS

SAN ANTONIO, Tex., June 1.—A wildcat well blew out in Nueces County Sunday marking a probable mile extension to the Clara Driscoll field. The wildcat, O. W. Killam No. 1 Ellick, is making about 2,000 bbls. of oil per day from sand at 3,885 to 3,898 feet after 1,000 feet of pipe was blown from the hole and the derrick collapsed. Imminent danger of fire is caused by the large oil flow of the new producer. It is the most important recent discovery in the Lower Gulf Coast.

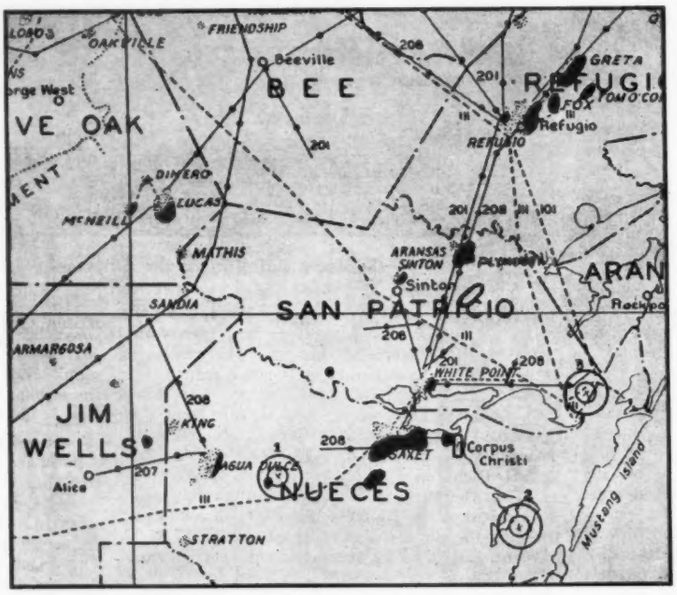
Another important wildcat development of the week was made in the M. F. Hurlburt No. 1 J. O. Phillips, located in section 8, of the Flour Bluff Garden Tracts near the Don Patricio Causeway across Laguna Madre, Nueces County. Sand showing saturation was cored at 6,625-32 feet. This is identified as the Frio formation, the horizon which is being opened in the Saxet field to the north with 5,800-foot producers, and the pay of the Plymouth field still farther north in San Patricio County. Water was used in making the drill stem test and after a nine-minute test at 6,608-35 feet, 7 fourbles of fresh water with a gasoline odor and oily taste were recovered. The working pressure was reported at 250 pounds.

The third wildcat showing possibilities of new production in the Lower Coastal Region is Buckingham Oil Co.'s No. 1 McCampbell, located in the J. Orick Survey in Aransas County. Last month this test encountered high gas pressure and blew out. It was brought under control, and the work of removing drill stem stuck in the hole began. This is nearing completion, and the wildcat will soon have a test. It is regarded with interest by Southwest Texas operators as the possible discovery well of Aransas County's first oil field.

Saxet and Saxet Heights

The Saxet field activity is still on the increase, with added tests projected for the new deep Frio sand at 5,800 feet. One more producer was brought in from this horizon during the week and four tests were on the sand. Conroe Drilling Co. No. 1 Frank Bliss was completed for 6 bbls. per hour on a one-eighth inch choke from sand cored at 5,814½-5,831 feet. Of those tests on the sand, one, A. F. Holliday's No. 1 Hutchins-Stillwell blew out and ran wild for several days making gas from that sand and water from a shallow sand. It was successfully capped later in the week. Besides the deep sand completion, wells were brought in from pay at 4,800 feet and 4,100 feet.

In the Saxet Heights, or Corpus Christi field, operations were nearly at a standstill during the week, as Capitol Oils, Inc., No. 1 Ayres, an inside producer, caught fire and burned from Saturday until the following Friday. Drilling continued on locations removed from the blazing well, and two new producers for the rapidly developing field were completed. The effect of this accident on drilling in the field remains to be seen, as 27 new drilling permits were issued during the week.



Three wildcat tests in the Lower Gulf Coastal region: (1) O. W. Killam No. 1 Ellick, near the new Clara Driscoll field in Nueces County, blew in and produced 2,000 barrels in 24 hours. (2) M. F. Hurlburt No. 1 Phillips, which showed 250 pounds pressure on a test. The sand is at 6,625-32 feet. (3) Buckingham Oil Co. No. 1 McCampbell, now ready for further testing

San Patricio County

San Patricio County wildcatting gained during the week with the start of another test in section 19. Benedum & Trees Oil Co., which has found showings of production in two sands in the No. 2 Welder wildcat is still working the test, coring below 6,380 feet, and No. 3 Welder, located 933 feet southwest of this test, is rigging up for another try at the sands.

Plymouth field activity in San Patricio County continues steadily with the Plymouth Oil Co. active in the northern section, and several operators are drilling on the southern edge, extending the field farther every week. Operations in this field have been orderly since its opening, and it is now one of the most important sources of production in the entire Coastal section. Taft, the small field south of Plymouth, gained another producer during the week in the 4,000-foot horizon.

The Fault Line Zone came into prominence in this section late in the week with showings in the Bay Oil Co. No. 1 Bank of Commerce. Top of the Austin Chalk was cored at 5,717 feet. The section from 5,817 to 5,828 feet showed some saturation and casing has been set at 5,717 feet. Located in Zavalla County southwest of the Pearsall field of Frio County, this test is one of three seeking production in the chalk. The Bay Oil Co. test is running about 200 feet lower than the nearest Amerada well in Pearsall, but it is believed that the test is located on a separated structure down dip from the Pearsall field. Of the other tests in the area, Frank Buttram's No. 1 Whitecotton is coring shale below 5,750 feet and the Leona Oil Co. No. 1 George West is shut down at 6,020 feet.

Big Well Quits Flowing

Importance of these wildcats was enhanced several weeks ago when the Amerada Petroleum Corp. brought in flush production in the Pearsall field. The chalk production in this area is as yet of unknown importance. In Pearsall, the Amerada No. 6 Halff & Oppenheimer, which was completed in March testing 1,316 bbls. through open tubing on a 1 hour and 25 minute gauge, has ceased producing and is being reworked at present. Farther up the zone, in Atascosa County, the Atascosa Trust No. 1 Domsch, located 3¼ miles north of Poteet, is swabbing with oil show at 3,519 feet. Difficulty was encountered with water from shallow sands, and the test which showed for a producer several weeks ago is now to be given a test.

At the eastern end of the Rio Grande Valley district, in Wallacy County, Shell Petroleum Co. No. 1 Yturria Land & Livestock Co., a wildcat, is attracting considerable interest due to unconfirmed reports of oil showings around 5,000 feet. Only confirmed information on the test is that it has been plugged back to 4,700 feet from a total depth of 5,486 feet.

In Duval County, a large volume of completions were chalked up for Loma Novia and Seven Sisters fields, with six other producing areas in the county active. In Loma Novia 16 new producers were added, being routine completions on inside locations. Seven Sisters received 10 new wells, with the completions ranging from the eastern to western edge of the field. An important southwest extension is due for the field early in the coming week with the expected completion of Atlantic Oil Producing Co. and Darby Oil Co. No. 1-G Welder in Survey 102. The test was swabbing in at latest reports with total depth 2,430 feet. Texas Co. has set casing on the sand at 2,512 feet in a northwest outpost test in Survey 307.

In Webb County, the Lopez field scored three completions with the Magnolia Petroleum Co. No. 1 Peal getting under way with an important northeast outpost test. The O'Hern field in the same county gained one new producer, and the principal Valley field, Samfordyce, was developed further by two oil producers and one gasser.

A detailed completion and drilling report on the Southwest Texas area will be found in the section devoted to drilling operations which begins on page 83.

Mississippi Gas

JACKSON, Miss., June 1.—Effective May 26, the Mississippi state oil and gas board, acting under a law passed by the last legislature, issued its first proration order for the withdrawal of gas from wells in the Jackson field.

It provides: "That should some wells be over-pulled or under-pulled, due to increased or decreased market demand or for any other reason, according to the schedule of allowable production; then the following month or months such inequalities shall be adjusted.

"That 200 acres is the maximum efficient drainage area of any well in the Jackson field and not more than 200 acres is to be allotted to any one well."

Kansas Developments

By
DAL DALRYMPLE

PROVE GUSHER PRODUCTION FOR NEW HAUSCHILD FIELD

The new Hauschild pool in southern Rice County was looking like one of the major discoveries of the year in Kansas at the week end, as the A. A. Buschow, Sr., and Ernie Shaffer No. 1 Peter Hauschild, W half NW section 15-21-7w, showed for gusher production. The well started flowing while operators were pulling a sand pump out of the 8-inch hole. It was reported to have hurled the pump to the top of the 90-foot derrick, and for one and one-half hours the well flowed an estimated 300 bbls. an hour. It was shut in for connections. Chat was topped at 3,367 feet, and the hole was bottomed at 3,378 feet.

The Hauschild well is a diagonal offset of Darby Petroleum Corp. No. 1 Johnson, SE SE SW section 10-21-7w, which made potential of 2,160 bbls. the past week. The No. 1 Johnson was producing from Chat at total depth of 3,367 feet. The discovery well in the pool, the L. E. Douglass, Derby Oil Co. and others No. 1 Hauschild, NE NE NW section 15-21-7, was completed several weeks ago and made 24-hour potential of 1,280 bbls.

Another new Kansas pool was being opened in Ness County by Continental Oil Co. No. 1 Thompson, C E half E half SW section 13-18-26w, about 12 miles west of Ness City. It topped Siliceous lime at 4,446 feet; total depth, 4,462 feet. It filled up with 2,750 feet of oil, was swabbed to bottom and oil rose 150 feet in 6-inch pipe in one hour. Natural production was estimated at 150 bbls. It was being tubed and will be treated with acid.

Several new wildcat tests were started in various sections of Kansas the past week. Winkler & Koch were moving in rotary for No. 1 Vessy, C NW SE section 26-3-26w, for a far northwestern Kansas wildcat test in Decatur County. Noah & Young were getting started at No. 1 Hills, SE section 19-20-21w, in southeastern Graham County. Lion Oil & Refining Co., of El Dorado, Ark., has entered Kansas and is starting its first well in that state, a test in Ellis County. It is the No. 1 Roth, NW section 21-15-18w, southwest of production in the Ruder pool.

In McPherson County, Marathon Oil Co. No. 1 Decker, SW SE SE section 20-21-1w, wildcat three-fourths of a mile northeast of the Graber pool, made 24-hour potential of 1,970 bbls. of oil, after acidizing. Production was from Hunton lime, total depth 3,285 feet. It was the biggest producer in that area.

McPherson County

The recent strikes in McPherson County have given new life to operations in that area, four new tests being started the past week. Derby Oil Co. No. 1 Hetzke, SW SE SE sec. 20-21-1w, was building rotary rig. Marathon Oil Co. No. 2 Decker, NW SE SE section 20-21-1w, was a location. Continental Oil Co. No. 1 Hetzke "A," SE SW SE section 20-21-1w, was a location. Same operators No. 2 Hetzke, NW NE NE section 20-21-1w, was moving in material.

Rice County

Hutchison Oil Co. No. 5 Wendell, NW SW NE sec. 32-19-10w, in the Silica field of Rice County, topped Siliceous lime at 3,280 feet, and was completed at 3,329 feet, total depth. It pumped 2,000 bbls. in 23 hours; was acidized and made potential of 2,203 bbls. Same operators No. 3 Wendell, SE NW NE section 32-19-10w, pumped 800 bbls. in 24 hours after acidizing and was completed at 3,340 feet, total depth. Top of Siliceous lime was 3,288 feet.

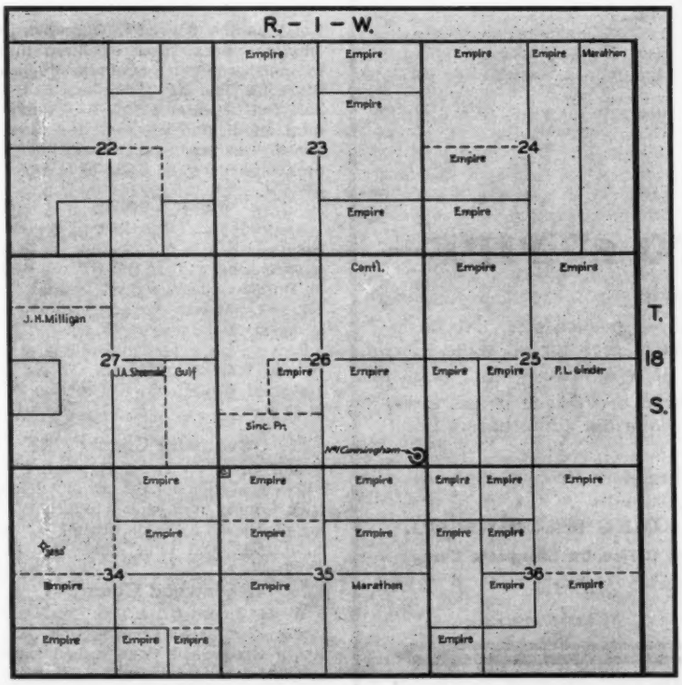
Sinclair Prairie Oil Co. No. 1 Kelly, NW cor. section 22-20-10w, in the Raymond area, had Siliceous lime at 3,391 feet; total depth 3,397 feet; and swabbed 500 bbls. in 19 hours. It was acidized, made potential of 1,243 bbls. and was completed. Gulf Oil Corp. No. 5 Coffman, SW cor. section 5-20-9w, in the Chase pool, made potential of 1,378 bbls. after acidizing, and was completed at 3,259 feet, total depth. Top of Siliceous lime was 3,232 feet.

The following new work in Rice County was reported: Continental Oil Co. and others No. 3 S. Ainsworth, NW SW NE section 25-18-8w, cellar; same operators No. 3 Kimple, NE SE NW section 25-18-8w, cellar; Hutchison Oil Co. No. 1 Wendell, SW SW NE section 32-19-10w, an old well, deepened from 3,294 feet to 3,305½ feet, but not tested; Stanolind Oil & Gas Co. No. 1 Panning, NW SW NW section 33-19-10w, rotary rig.

Gulf Oil Corp. No. 4 Keesling, NE SW SW section 10-20-9w, pumped 238 bbls. of oil in 16 hours after acidizing with 2,000 gallons. It topped Siliceous lime at 3,214 feet; total depth 3,254 feet.

Barton County

Magnolia Petroleum Co. No. 5 Meda Steckel, SW NE NW section 1-20-11w, in the Barton County sector of the Silica pool, made potential of 1,103 bbls. of oil and was completed at 3,298 feet, total depth. Top of Siliceous lime was 3,282 feet. Buchanan & Alexander No. 1 Langfeld, NE NE SW section 14-20-11w, topped Kansas City lime at 3,022 feet; total depth 3,299 feet. It made potential of 488 bbls.; was acidized, made new potential of 1,110 bbls., and was completed. Darby Petroleum Co. and Smith & Ash No. 1 Turgeon, C S half S half SW section 9-16-12w, in the Beaver area, had Gorham sand at 3,341-49 feet, total depth, made potential of 386 bbls. and was completed.



Empire Oil & Refining Co., SE corner section 26-18-1w, has opened a new pool northeast of the Canton district, McPherson County, Kans.

(Mid-Continent Map Co., Wichita, Kans.)

Roy Ramsey and others No. 1 Hunt, NW cor. section 10-18-11w, wildcat in the Claflin area, failed to make a commercial producer after plugging back, acidizing and shooting, and was dry and abandoned at 3,404 feet, total depth. Top of Kansas City lime was 3,108 feet; Siliceous, 3,282 feet.

New Barton County work included a wildcat, the J. A. Brouk and others No. 1 Keil, SE SE NE section 11-16-15w, north of Galatia in the northwestern corner of the county. Rig was being built. Magnolia Petroleum Co. No. 8 F. Steckel, NW SW NE section 1-20-11w, was a location. Gulf Oil Corp. No. 2 Zahorsky, NW NW SE section 14-20-11w, was building rotary rig.

Stanolind Oil & Gas Co. No. 1 E. W. Eberhardt, SW cor. section 13-19-11w, topped Siliceous lime at 3,306 feet; total depth 3,356 feet, and production was estimated at 700 bbls. of oil daily.

Estimated Production

Estimated daily average production in Kansas for the week ending May 30 and for the preceding week is as follows:

	Barrels	
	May 30	May 23
Oxford City	6,725	6,600
Burrton	13,525	13,100
Ritz-Canton	6,625	6,575
Hollow-Nikkel	3,950	4,025
Voshell	3,100	3,000
Ellsworth County:		
Lorraine-So. Lorraine	8,298	7,725
Other pools	1,509	1,358
Rice-Barton Counties:		
Chase	9,455	9,427
Raymond	3,812	3,715
Silica	11,677	12,611
Keesling	3,228	2,763
Miscellaneous Rice	4,123	4,141
Miscellaneous Barton	2,337	2,297
Russell County:		
Fairport	2,825	2,924
Gorham	4,070	4,085
Russell	2,037	3,834
Sullivan	4,335	3,091
Other pools	5,853	6,558
Sedgwick County:		
Valley Center	1,350	1,372
Greenwich	1,414	1,446
Robbins	1,522	1,533
Eastborough	811	830
Other pools	428	419
Ellis County	1,389	1,190
Kingman County	521	541
Stafford County	1,930	2,435
Greenwood County	9,250	9,250
Butler County	17,950	18,100
Other fields	21,226	22,180
Total Kansas	155,275	157,125

Russell County

Only one well in four completed in Russell County was a producer, an unusual occurrence for that prolific area. Southern Oil Co. No. 2 Rose Berry, NW SW NW section 34-15-13w, in the Sellens area, topped Siliceous lime at 3,334 feet and was bottomed at 3,339 feet. After acidizing it made potential of 1,103 bbls. Bailey & Bailey No. 1 Galliart, NE SE SW section 34-15-12w, in the Dubuque area, was dry and abandoned in Granite at 3,618 feet, total depth. Anhydrite was topped at 754 feet; Oswald, 3,060 feet; Siliceous, 3,370 feet.

Central Petroleum Co. No. 1 Furth-

meyer, NE cor. section 28-14-15w, wildcat south of the Gorham pool, had a hole full of water at 3,318-22 feet, total depth, and was abandoned. Tops follow: Anhydrite, 838 feet; Oswald, 3,023 feet; Conglomerate, 3,-265 feet; Siliceous, 3,283 feet. Stearns & Streeter and others No. 1 John Hancock Insurance Co., SE SW SW section 31-12-14w, wildcat northwest of Russell, had a hole full of water at 3,205 feet and was abandoned. It topped Topeka lime at 2,567 feet; Oswald, 2,845 feet; Conglomerate, 3,-113 feet; Siliceous, 3,123 feet.

The only new work reported in Russell County was at Central Petroleum Co. No. 1 Benso "C," SE SE SW section 9-14-15w, an old wildcat, setting 5-inch casing, to deepen.

Hartman & Blair No. 3 Sullivan, NW NE SE section 2-14-15w, had Gorham sand at 3,316-21 feet, total depth, and swabbed at the rate of 60 bbls. of oil per hour but had not been completed. Darby Petroleum Co. No. 2 Dumler, NE NW NW section 11-14-15w, had Gorham sand at 3,287-90 feet, and oil rose 2,700 feet in the hole in six hours, but it had not been tested. Same operators No. 3 Dumler, SW NW NW section 11-14-15w, had Gorham sand at 3,279-87 feet, and oil rose 2,700 feet in the hole, but it had not been tested.

Reno County

In the Burrton area of Reno County, McPherson Drilling Co. and others No. 1 Mount, NW NW NE section 20-24-4w, made potential of 406 bbls. of oil, with 20 bbls. of water, after acidizing, and was completed at 3,374 feet, total depth. Chat was topped at 3,320 feet. Shell Petroleum Corp. No. 1 S. Collins, NW NW SW section 16-24-4w, was acidized and pumped and flowed 816 bbls. of oil and 245 bbls. of water in 24 hours. It topped Chat at 3,310 feet; total depth 3,391 feet. It pumped and flowed 106 bbls. of oil and 20 bbls. of water in 16 hours before acidizing. Tide Water Oil Co. No. 1 Burrton State Bank, SE SE NW section 17-24-4w, had Chat at 3,293 feet; total depth 3,375 feet, and pumped 95 bbls. of oil in 12 hours. It was acidized, pumped and flowed 557 bbls. of oil and 2 bbls. of water, and was completed.

New work in Reno County: McPherson Drilling Co. and Derby Oil Co. No. 5 Scheuchzer, C S half S half SW section 17-24-4w, location; Duwe and others No. 1 Mildren, C SW SE section 24-24-8w, an old well deepening from 3,550 feet, had a showing of gas in Chat at 3,750 feet, and was setting 6-inch casing.

Trego County

Alma Petroleum Co. and McNeely No. 2 Rhoades Estate, C NW NE section 14-11-23w, in the Wakeeney pool of Trego County, made potential of 70 bbls. of oil and was completed. It topped Anhydrite at 1,705 feet; Kansas City lime, the producing horizon, at 3,450 feet; total depth, 3,563 feet. It had a hole full of water at 3,538 feet, and was plugged back to 3,520 feet.

Ellis County

The only Ellis County completion was a wildcat failure. Tom Palmer No. 1 Schoenthaler, NE NE NW section 31-12-19w, north of Yocemento, was dry and abandoned at 3,875 feet, total depth. Oswald lime was topped at 3,370 feet; Conglomerate, 3,765 feet; Siliceous lime 3,864 feet.

The following new work was reported in Ellis County: Tom Palmer and Storm King Oil Co. No. 1 C. Ruder, SW NW SE section 8-15-18w, building rotary rig; Lion Oil & Refining Co. No. 1 Roth, NW cor. section 21-15-18w, building rotary rig; Empire Oil & Refining Co. No. 1 Samuelson, NE NE SE section 31-11-16w, wildcat, location.

Graham County

Noah & Young No. 1 Hills, NW SE SE section 19-10-21w, wildcat in southeastern Graham County, was a rig. It is about 7 miles northeast of the Wakeeney pool in northern Rooks County, and is on an 8,500-acre block assembled by Fred A. Noah and Frank R. Young. It is to be a Siliceous lime test.

Rush County

Rose Spring Drilling Co. and others No. 1 Jacobs, SW SE NW section 8-16-17w, wildcat east of Liebenthal in northern Rush County, topped Siliceous lime at 3,560 feet, had a hole full of water at 3,581-3,604 feet, total depth, and was dry and abandoned. Gas production was estimated at 5,000,000 feet at 3,529-35 feet.

Butler County

Sanford and others No. 1 Weaver Estate, SE SE NE section 11-28-5, wildcat southwest of the Weaver pool in Butler County, topped lime at 2,-752 feet, but was dry and abandoned at 2,800 feet, total depth.

The only new test in Butler County was Vickers Petroleum Co. No. 3 Moore, C W half NE SW section 36-24-3, a rig.

Sedgwick County

Gulf Oil Corp. No. 1 Hamant, SW SW NW section 14-26-2, an old Sedgwick County well, pulled 6-inch casing to deepen, and was drilling below 3,170 feet. Old total depth was 3,-166 feet.

Greenwood County

W. M. Moore Oil & Gas Co. No. 5 Pixley, C E half NE SE section 7-22-10, in Greenwood County, had sand at 2,294 feet; total depth 2,333 feet; pumped 120 bbls. in 24 hours; was shot, cleaned out, pumped 50 bbls., and was completed. Shull Drilling Co. No. 2-B Hinchman, SW SW NE section 17-24-13, topped lime at 1,587 feet and was bottomed at 1,611 feet. It pumped 85 bbls. of oil in 24 hours and was completed.

Woodson County

Lester and others No. 1 Weldie, NE NE SE section 17-25-14, wildcat in Woodson County, was shut down at 675 feet.

Sumner County

Shell Petroleum Corp. No. 4 Community, NE NW NE section 14-32-2, an old well in the Oxford area of Sumner County, made potential of 379 bbls. of oil, with 144 bbls. of water, after acidizing with 6,000 gallons, and was completed. Dolomite was topped at 2,882 feet; total depth 2,986 feet, with water showing; plugged back to 2,976 feet.

One new Sumner County test was reported. E. B. Shawver No. 5 Erker, SW SW NW section 33-31-1w, was rigging up rotary.

Cowley County

The only Cowley County completion failed to make a commercial producer. It was the Texas Co. No. 1 Houston, NE NE SE section 10-31-4. It topped lime at 3,017 feet; had sand at 2,978-92 feet, with a showing of oil; was bottomed at 3,-070 feet; plugged back to 2,990 feet and shot with 40 quarts, and was dry and abandoned.

Barber County

The following locations recently staked in Barber County by Barbara Oil Co. were reported abandoned: No. 1 E. F. Mangison, C SE SW section 11-33-13w; No. 1 Magnison, C NE NW section 14-33-13w, and No. 2 Angell, C SE NW section 23-33-13w.

Location was staked for a new wildcat test in Barber County. It was Sinclair Prairie Oil Co. No. 1 Gentry, NE cor. section 1-33-15w, south of Dearhead in the western part of the county.

Crude Oil Stocks

Stocks of domestic and foreign crude at the close of the week ending May 16 totaled 315,481,000 bbls., according to the Bureau of Mines, an increase of 582,000 bbls., comprising an increase of 658,000 bbls. in domestic crude, but a decrease of 76,000 bbls. in foreign crude. Daily average imports increased from 63,000 bbls. to 86,000 bbls., and fuel, losses, etc., increased from a daily average of 122,000 bbls. to 158,000 bbls.

Grade of crude oil—	May 9	May 16
Pennsylvania Grade	4,324,000	4,311,000
Other Appalachian	884,000	896,000
Lima-N.E. Indiana-Michigan	1,341,000	1,398,000
Illinois-S.W. Indiana	10,375,000	10,382,000
N. Louisiana and Arkansas	10,214,000	10,235,000
West Texas and S.E. New Mexico	28,640,000	29,117,000
East Texas	20,957,000	20,867,000
Other Mid-Continent	128,014,000	127,884,000
Gulf Coast	28,532,000	28,800,000
Rocky Mountain	26,548,000	26,480,000
California	35,047,000	35,114,000
Foreign	3,123,000	3,047,000
Total reported weekly	297,999,000	298,531,000
Estimate of unreported stocks	16,900,000	16,950,000
Total stocks	314,899,000	315,481,000

J. A. Neidig, Skelly Oil Co. scout in Kansas, was assigned to the western Kansas district, effective June 1. Jerry Simpson, who has been in the Kansas land department of the company, was assigned to scout the central Kansas area, heretofore covered by Mr. Neidig.

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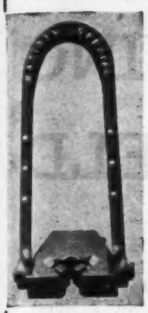

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Among Gulf Coast Drilling Contractors

George Echols has apparently opened a new field in Nueces County for H. L. Hurlburt. It is No. 1 Phillips, located on the Flour prospect which has shown strong gas pressure in sand from 6,608-35 feet. Contract was received from the Marathon Oil Co. for a wildcat on the Lakeview prospect in Matagorda County and also for a well in the Placedo field in Victoria County. In the meantime three other rigs are located in the Gillis field for Fohs Oil Co., one at Saxet Heights for the Taylor Refining Co. and one in Duval County for the Sun Oil Co.

Smith and McDannald are moving in a rig in Orange County for No. 1 E. N. Brown to be drilled for the Tide Water Oil Co. At St. Martinsville, St. Martin Parish, Louisiana, Tide Water Oil Co. No. 2 Smedes has been abandoned after testing salt water. Continental Oil Co. No. 1 fee, in the same field, is preparing to test at a plugged back depth of 7,343 feet. In Zavalla County, where the firm is drilling for the Bay Oil Corp., casing is being run for a production test after some saturation was shown at 5,816-28 feet. Seven other rigs are located as follows: Two at Long Lake for the Texas Co. and Tide Water Oil Co., one at Louise for Pure Oil Co., one at Hastings for Stanolind Oil & Gas Co., two at South Houston for themselves and Stanolind Oil & Gas Co., and one at Jennings for Shell Petroleum Corp.

C & C Drilling Co. has apparently opened a half-mile extension for the Ace field in Polk County by Dick Schwab's No. 1-A Kirby Lumber Co., which tested 400 feet of oil on a nine-minute drill stem test from 4,792-4,815 feet. Five-inch casing was cemented at 4,815 feet.

Ben (Bud) Coyle is coring below 9,200 feet on an outpost test at Jeanerette in St. Mary Parish for the Herton Oil Co. and has three other rigs running for the same company. Contract was received for No. 1 State to be drilled in the Bayou Teche River which runs through the field.

Edwards Drilling Co. is drilling below 8,400 feet on Coast Petroleum Co. No. 1 Maco Stewart, in the south extension area of the Dickinson field, Galveston County, and on a wildcat test in Hardin County for David B. McDaniel, No. 1 Nona Mills, is drilling below 8,000 feet.

Glenn H. McCarthy is moving in a rig to the Cotton Lake prospect in Chambers County for himself. It is No. 1 Kilgore and is located northwest of two dry holes drilled by Salt Dome Oil Co., and Gem Oil Co. No. 1 Langham, located at the Amelia field, has been spudded, and No. 10 White at Anahuac field for the Humble Oil & Refining Co. has been completed and the rig is being moved in for No. 11 White.

Nicklos Drilling Co. has reached the pay on No. 2-A Welch at the Tepetate field in Acadia Parish for Continental Oil Co. and is drilling below 7,800 feet on No. 3-A Homeseekers Development Co. for the same company. At Port Barre in St. Landry Parish, No. 2 Cormier, being drilled for the Pan American Production Co., is bottomed in shale at 4,860 feet and the hole is being reamed.

Rutherford Drilling Co. completed three wells at the Van Vleck field in Matagorda County for Skelly Oil Co. and received contract for two more tests, being No. 8-B Cobb and No. 1 G. Moore. The completed wells were No. 6-B Cobb, No. 1 Langham and No. 1 Rugelsey.

Rowan Drilling Co. is preparing to make a production test on a wildcat test, located northwest of Houston in Harris County, which is being drilled for the Amerada Petroleum Corp. It is No. 1 Dopslauf, originally drilled to 7,250 feet, and the test is to be made at a plugged-back depth of 6,850 feet.

Al Buchanan, of San Antonio, has 14 rigs active in three Southwest Texas Counties. Five are drilling for the Plymouth Oil Co. in the Plymouth field of San Patricio County. In the same county, No. 2 Welder is coring below 6,380 feet for the Benedum & Trees Oil Co. This wildcat encountered oil shows at 5,700 feet and 6,100 feet, but commercial production failed in both sands. In the same section, No. 3 Welder is getting under way for the same company to test the sands. A rig was moved to the new Rhode field in McMullen County to drill Humble Oil & Refining Co. No. 1 Rhode. This field was recently opened by Magnolia Petroleum Co. No. 2 Kincaid which came in for a large gasser. In Duval County, rigs are active in three fields. In Loma Novia a producer was completed for Humble, and in Seven Sisters rigs are moving on new locations for Pan American Production Co. and Mid-Continent Petroleum Corp. In that field producers were recently completed for Shell Petroleum Corp. and Blanco Oil Co.

Trinity Drillers, Inc. of San Antonio completed No. 11-E Trevino for the S. R. C. Oil Co. in the Escobas pool of Zapata County. In the Lopez field of Webb County another well was brought in for Superior Oil Co. of California. Other rigs are drilling in Wharton, Victoria, Nueces and Duval Counties for Shell Petroleum Corp., Texas Co., Rowan & Hope and Continental Oil Co.

George W. McMurray of San Antonio is to core to the Yegua formation in the Dirks Brothers No. 1 George West, wildcat in Live Oak County. The test found salt water in the Pettus at 3,478 feet. In Bee County, the rig on the No. 2-B Harris in the Dirks field was skidded a short distance off, and a new hole begun when the old hole was lost. Drilling in the new hole is below 1,000 feet at present.

Walter Boyle, geologist with the Phillips Petroleum Co. in San Antonio, has been transferred to Corsicana, Tex., where a geological office will be opened by that company. For the past several weeks Mr. Boyle has been in Shreveport. He returned to San Antonio last week, to leave immediately for his new assignment, which was effective June 1.

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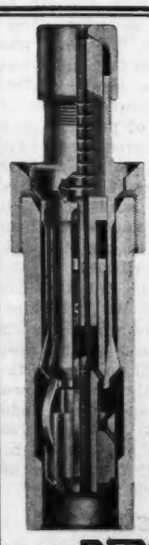

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Texas and Louisiana Gulf

By
F. L. SINGLETON

SCHWAB FINDS OIL SHOWING IN POLK COUNTY GAS FIELD

HOUSTON, Tex., June 1. — The most interesting feature along the Gulf Coast the past week was the showing made by Dick Schwab No. 1-A Kirby Lumber Co., located in the Ace field, southern Polk County, which is preparing to test after the operators recovered 400 feet of 42-gravity oil on a nine-minute drill stem test at 4,792-4,816 feet, total depth. The test was made through quarter-inch chokes on top and bottom of the testing tool and showed 450 pounds of working pressure. Five-inch casing has been cemented on bottom and it will be tested through perforations to be made in the bottom 6 feet of casing.

No. 1-A Kirby Lumber Co. is located approximately a half mile southeast of the same operator's No. 2 Kirby Lumber Co., the discovery well, which was completed in 1933 for a wet gasser consequently should the test be completed for an oil well it will be the first commercial producer for the field which is expected to lead to additional development. Material is being moved in for No. 1 M. E. Roberts to be drilled by Turnbull & Irwin, located 4,580 feet west of the east line and 330 feet south of the north line of the J. F. Do Rumayor Survey. It is about a mile south of No. 1-A Kirby Lumber Co. and 4,225 feet east of Alpha Petroleum Co. No. 1 Roberts, which was abandoned at 5,641 feet.

Harris County

Amerada Petroleum Corp. and others No. 1 Dopslauf, located on the Satsuma prospect, western Harris County, was drilled to a depth of 7,520 feet, and after an electrical coring test was made, the hole was plugged back to 6,850 feet and a test will be made of the sand at 6,789-6,826 feet, which showed 60 feet of oil and 450 pounds of pressure on a drill stem test. Numerous tests have been drilled in this area and all have encountered showings of oil and gas, but due to the thin sand section all showed salt water and were abandoned. Location is in the W.C.R.R. Survey. To the northwest on the Hockley dome Zenia Oil Co. has spudded in on No. 1 W. A. Perkins, located 2,620 feet south of the north line and 261 feet east of the west line of the A. Sherrell Survey. Northeast of Houston on the Epsom Down area, D. B. Cherry and others made location for No. 1 B. J. Dodge, 3,700 feet south and 3,700 feet east of the most northerly northwest corner of the Josiah T. Harrell Survey.

New Test for Cotton Lake

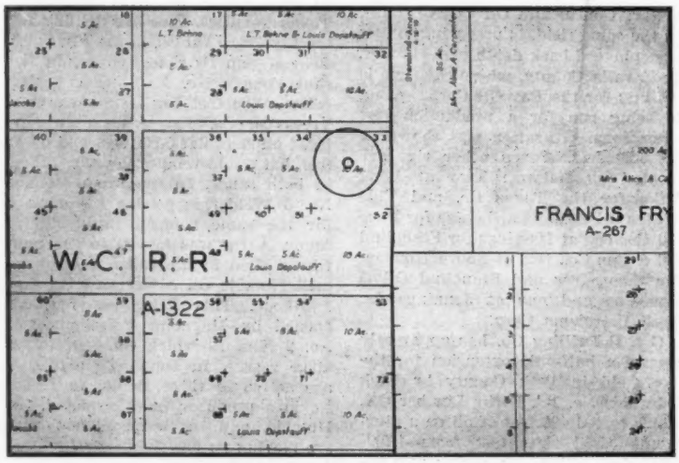
A new test for the Cotton Lake prospect, Chambers County, has been announced by Glenn H. McCarthy, Inc., for No. 1 Joseph Kilgore, 330 feet out of the most northerly southeast corner of the J. Townsend Survey. It is about 2 miles northwest of two dry holes recently drilled by the Salt Dome Oil Corp. and Gem Oil Co. To the east in the Turtle Bay field, Stanolind Oil & Gas Co. is preparing to complete No. 2 State, which is bottomed in sand at 6,617 feet with 7-inch casing cemented at 6,608 feet. This is the approximate depth from which the company's other four wells are producing.

Humble Oil & Refining Co. No. 2 Guinn, located in the C. Williams Survey, Amelia field, Jefferson County, topped oil sand at 6,737 feet and 7-inch casing is being set after the hole was drilled to a depth of 6,773 feet. The company's No. 1 Pinchback, located west of the discovery well and which was killed last week due to the high gas-oil ratio, was cored to 6,772 feet and will be completed through perforated liner from 6,767-70 feet. As soon as the well is completed the rig will be moved 933 feet north for No. 2 Pinchback. To the south on the Cheek prospect, Magnolia Petroleum Co. No. 1 Funchess, located in section 16, H.T.&B. Survey, topped the Frio at 6,750 feet and is drilling in hard sand at 8,759 feet.

Atlantic Oil Producing Co. No. 1 Hardy, in the Hardin field, Liberty County, was plugged back from 7,709 feet to 7,445 feet and the casing perforated with 20 holes at 7,432-45 feet. On a 28-minute drill stem test, it showed 10 joints of drilling mud with no pressure and is now shut down waiting on the outcome of J. W. Frazier No. 1 George Rearles, located about 1½ miles northwest in the Amos Green Survey, which is drilling in shale below 4,750 feet. The Heterostegina was topped at 3,805 feet.

Completions in Van Vleck

In the Van Vleck field, Matagorda County, Skelly Oil Co. No. 6-B Cobb was completed through perforated casing from 7,480-98 feet and flowed 487 bbls. the first 16 hours through a quarter-inch choke with tubing pressure 1,300 pounds and casing pressure 1,200 pounds. No. 1 Rugelsey, located in the I.&G.N. Survey, perforated the 7-inch casing, set on bottom at 7,502 feet, at 7,480-99 feet with 50 shots and it was flowing into the pits, but no gauge was available. The company's No. 1 Langham, completed last week through perforated casing from 7,460-75 feet; went dead and is now being swabbed. To the southeast on the Hawkinsville dome, Sun Oil Co. No. 1 Craig swabbed dry on a production test at 5,340-60 feet and a second test is to be made at 5,240-95 feet. To the west on the Shepherds Mott dome, Helmerich & Payne No. 1 Hawkins has been abandoned after testing salt water at 2,750 feet. Location is in the D. McCarthy Survey.



Map of the Satsuma area, Harris County, showing location of Amerada Petroleum Corp. and Stanolind Oil & Gas Co. No. 1 Dopslauf which is preparing to test at a plugged back depth of 6,850 feet

(Map courtesy W. W. Zingery, Houston, Tex.)

Pickett Ridge

The north extension area of the Pickett Ridge field, Wharton County, was assured of additional development due to the showing made by Crown Central Oil Co. No. 1 Rod, which showed 7 stands of oil on a 15-minute drill stem test at 4,594-4,608 feet, the total depth. The sand was topped at 4,608 feet and 7-inch casing has been cemented at 4,596 feet. It is a south offset to Texas Co. No. 1 Marek, completed several weeks ago in the same sand. The producing limits of this area are not expected to be extended much farther since Texas Co. No. 2 Marek, northwest of No. 1, is drilling in shale below 6,058 feet.

Two new wildcats for the Blue Basin prospect, Wharton County, were announced by Pure Oil Co. No. 1 A. P. Borden will be drilled south of the company's No. 1 Paige, temporarily shut down at a plugged back depth of 7,755 feet and No. 1 Sam G. Shult is located about 2 miles southwest of No. 1 Paige in the L. P. Ogden Survey. The company's No. 1 Paige was drilled to a depth of 9,200 feet and is reported to have encountered numerous showings of oil and gas below 8,000 feet, but due to heaving shale the operators were unable to make satisfactory test.

In the Splendora area, Montgomery County, Tide Water Oil Co. and No. 1 Corbett topped the Cockfield sand at 5,878 feet and is preparing to core ahead below 6,050 feet. At this depth it is 172 feet in the Cockfield section and the outcome of the well should be known within the next 50 feet. Location is in the Josiah Blackman Survey.

TEXAS COAST

Field—	Dy. ave. prod.
Anahuac	8,457
Barbers Hill	17,739
Conroe	46,937
Hastings	8,849
Manvel	9,832
Mykawa	3,013
South Houston	2,437
Thompson	10,587
Tomball	7,837
Greta	16,175
Plymouth	9,279
Saxet	9,930
Saxet Heights	7,137
Miscellaneous	101,929
Total	260,137

LOUISIANA COAST

Bosco	13,927
Caillou Island	13,733
Cameron Meadows	5,179
East Hackberry	7,967
Gillis	15,637
Iowa	17,639
Lake Barre	10,337
Leesville	14,673
Roanoke	6,379
Sulphur	4,337
Tepetate	4,733
Miscellaneous	33,206
Total	148,630
Total Gulf Coast	408,767

Louisiana Coast

Developments along the Louisiana Coast were comparatively quiet with only a few routine completions and locations being reported for the district. In the St. Martinsville field, St. Martin Parish, Tide Water Oil Co. abandoned No. 2 Smedes after testing 41 stands of salt water on a 30-minute drill stem test at the approximate depth from which the discovery well is producing. The hole was originally drilled to a depth of 8,735 feet and several sands were tested, but all showed salt water and some gas. Continental Oil Co. No. 1

(Continued on Page 75)

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North Louisiana, Arkansas

By H. STANLEY NORMAN

SALT WATER THROWS GLOOM OVER WESTERN CADDO TEST

SHREVEPORT, La., June 2.—Testing of salt water in the Pyramid Oil & Gas Co. (Belchic & Laskey) and United Gas Public Service Co. No. 1-A S. R. Wheeler, deep prospect in western Caddo Parish, stemmed the most extensive leasing campaign in the North Louisiana-South Arkansas district since discovery of Rodessa.

No decision has been reached by operators on further exploration of the block west of Blanchard covering most of Township 18n, Range 16w, but terms of the contract may force the drilling of another test in the vicinity. It was reported that sale of a half interest in the Pyramid's block to United called for exploration to 6,000 feet unless oil or gas production in commercial quantities was encountered at a lesser depth.

Late last week, operators intended to determine the top of the plug which was tentatively placed at 4,856 feet. The hole was originally drilled to 5,210 feet and plugged back to 4,856 feet after 7-inch casing was set and cemented at 4,804 feet. Steel line measurement of the plugged back depth will be checked against Schlumberger chart.

Evidence of pressure, in final reports described as hydrostatic, aided in cleaning drilling water from the hole through a small choke on tubing. Later, operators of the Pyramid test installed an air-jammer on casing and appearance of salt water followed. The Pyramid and United No. 1-A S. R. Wheeler, 1,320 feet south and 1,500 west of NE cor. of section 16-18-16, is about 27 miles south of the Rodessa pool.

Watching Sibley Area

The Sibley district of Webster Parish, south of Minden and east of Shreveport 30 miles, remained one of the most closely watched prospects for new Trinity oil production in North Louisiana. The Sibley structure, first mapped by William Barrett and later "shot" by Arkansas-Louisiana Gas Co. and drilled by J. P. Evans of Shreveport, was proven productive of gas last week, and rumors were current that a slight amount of 53 gravity oil had made its appearance. However, operators were setting separator and tanks at the end of last week and did not anticipate definite confirmation of the oil production report until the middle of the current week. On official completion, the J. P. Evans No. 1 T. Crichton estate, 1,778 feet north and 192 feet west from the SE cor. of section 35-19-9, gauged 26,700,000 feet of gas per day through 1¾-inch flow line on casing. The well is bottomed at 5,587 feet. Gas is reported to have gauged 17,000,000 feet per day through tubing. Casing pressure is 300 pounds; tubing pressure 700 pounds and rock pressure 2,400 pounds.

The Evans well was originally tested at 5,532 feet where it showed a small amount of gas, estimated at 1,000,000 feet, with 6⅝-inch casing set and cemented at 5,363 feet. In drilling deeper, operators logged 35 feet of sand which has been tentatively correlated with the Gloyd at Rodessa. Geologists believe that it occupies relatively the same position in section as the Gloyd, although lack of a core in the zone has left this question open for later determination.

Production from the Evans structure has heightened interest and trading in other parts of Webster Parish, particularly around Tide Water Oil Co.'s block to the northwest in Range 18n, Township 10w.

Due north of the Tide Water's Webster Parish block, Ohio Oil Co. No. 1 H. L. Holloway, 660 feet south and 760 feet west of center of sec. 23-21-10, on the flank of the Cotton Valley pool, continues to stretch the drilling depth record for North Louisiana. The test was reported drilling blue shale last week at 7,797 feet.

Production by Pool

Rodessa, on both sides of the Louisiana-Texas state line, produced 66,575 bbls. per day in the week ending May 30. Production by pool in North Louisiana and Arkansas for the same period follows:

NORTH LOUISIANA

Bellevue	455
Caddo Light	3,995
Caddo Heavy	2,515
Converse	1,115
Cotton Valley	420
De Soto and Red River	1,330
Elm Grove	470
Haynesville	3,415
Holly	140
Homer	2,640
Pleasant Hill	155
Rodessa	63,450
Sarepta-Carterville	430
Urania	2,800
Zwolle	1,250
Total	84,580

SOUTH ARKANSAS

Champagnolle	3,190
El Dorado	2,110
Lisbon	290
Miller County	1,050
Nevada	865
Smackover Light	2,140
Smackover Heavy	17,655
Stephens	560
Urbana	1,970
Total	29,830

Texas side Rodessa field, 3,125 bbls. daily

Considerable dry sand has been cored and drilled in the basement Trinity section in the Boucher & Pace No. 1 Frost-Johnson, Union Parish, Louisiana, wildcat, northeast of Farmersville and northwest of the Monroe gas field. Operators were reported coring and drilling below 4,451 feet in sand, lime and shale. The test last week had top of Travis Peak at 2,880 feet and the elevation is 198 feet.

Main interest in Cass County, Texas, field operations last week was centered on the Texas Co. No. 1 Hall, in the James Young Survey, almost midway between the outpost production on American Liberty Oil Co.'s Maxie and Rambo leases. In a measure, the Texas Co. operation will determine whether the intervening territory is capable of blanket production.

The Texas Co. No. 1 Hall was drilled to corrected total depth of 6,115 feet and has casing set at 6,075 feet. Operators had Dees sand from 6,046 to 6,062 feet and Young pay in the Glenrose section from 6,084 to 6,114 feet. The hole, corrected from 6,105 to 6,115 feet, is bottomed in a foot of shale with elevation of 298 feet, or minus 5,817 feet. Drilling of plug started Saturday and completion was expected by the middle of the current week.

Further evidence that the Cass County, Texas, side of the Rodessa pool will be subjected to intense development within limits marked by outpost producers and beyond, was given last week. For the first time since discovery of the Rodessa pool, new operations launched on the Cass County, Texas, side exceeded those announced in Caddo Parish, where operators have recently maintained a very conservative drilling campaign.

At least six producers are scheduled for completion in Cass County on the Rodessa structure within the current week. American Liberty Oil Co. which pioneered outpost exploration on the Cass County side of the bi-state structure, announced three of the week's new locations in that county all on its Maxie lease in the John Collom Survey. The fact that nine of the Rodessa completions scored last week were in Caddo Parish, Louisiana, attests to the preponderance of active drilling operations on the Louisiana side, but with new work gradually shifting to the Texas border county, a reversal of present conditions will probably be accomplished within 60 days.

Progressive offsets to the 20 active drilling operations now on the Cass County list will probably double or triple work in that part of the Rodessa pool within 60 to 90 days, observers believe.

Nine of the district's 20 completions were registered in the Caddo Parish portion of the Rodessa pool and included one northern outpost finished for a gas and oil well by Blackwell Oil & Gas Co.

Two locations for deep Permian lime tests in the Smackover territory of Ouachita County, Arkansas, were listed as completions but one was dropped, due to sale of the property involved for an attractive consideration to Lion Oil Refining Co. Completions listed last week by parishes and counties, follow:

Caddo Parish, Louisiana

Arkansas Louisiana Gas Co. No. 15 Rodessa Oil & Land Co., 314 feet south and 446 feet west of NE SW NW section 23-23-16, gauged 50 bbls. per hour through one-half inch tubing choke from total depth of 6,001 feet. Saturation was topped at 5,947 feet, and elevation is 220 feet.

Blackwell Oil & Gas Co. No. 1 G. W. Nugent, C SW NE SE section 8-23-15, flowed 10 bbls. an hour through three-sixteenths inch choke on tubing from total depth of 6,107 feet. The outpost well had oil sand from 5,919 to 5,927 feet and gas production from 6,023-31 feet and at 6,055-65 feet with elevation of 326 feet. It gauged 429 bbls. in 24 hours on quarter-inch choke.

R. W. Norton No. 2 Foscue unit, 655 feet north and 578 feet east of SW cor. section 20-23-16, flowed 20 bbls. per hour when completed at total depth of 5,998 feet. The well made its production through quarter-inch tubing choke. Saturation was topped at 5,980 feet and the well's elevation is 209 feet.

Standard Oil Co. of Louisiana and Gulf Refining Co. No. 15 Lawton, C SW SW NW section 14-23-16, gauged 85 bbls. per hour through 1¾-inch tubing flow line from completion depth of 6,012 feet. Top of Dees sand oil and gas saturation was logged at 5,986 feet and top of Young saturation was picked up at 6,002 feet.

Standard and Gulf also completed No. 6 Otwell, C NE SE SE section 15-23-16, for production of 152 bbls. per hour through 1¾-inch tubing flow line from total depth of 6,001 feet. Saturation was topped at 5,983 feet with elevation of 231 feet.

United Gas Public Service Co. No. 17 Rodessa Oil & Land Co., C NW NW NW section 22-23-16, gauged 49 bbls. per hour through half-inch tubing choke at completion depth of 6,010 feet. The well logged top of saturation at 5,973 feet with elevation of 234 feet.

United Gas Public Service Co. No. 18 Rodessa Oil & Land Co., C SW NE SE section 15-23-16, gauged 58 bbls. per hour through half-inch tubing choke at total depth of 5,995 feet. With elevation of 214 feet, saturation was topped at 5,955 feet.

United Gas Public Service Co. No. 19 Rodessa Oil & Land Co., C SE NE SE section 15-23-16, produced 42 bbls. per hour through half-inch choke at total depth of 6,002 feet with top of saturation logged at 5,987 feet, or 5,790 feet below sea level.

United Gas Public Service Co. No. 20 Rodessa Oil & Land Co., C SE SE NE section 15-23-16, flowed 48 bbls. per hour through half-inch

(Continued on Page 80)

Michigan Field Report

FIELD EXTENSIONS BOLSTER HOPE OF STEMMING DECLINE

By PAUL A. ELLIOTT

CRYSTAL, Mich., June 1.—Extension of both the Crystal-Montcalm and Porter-Yost fields, leading oil producing centers of Michigan, comprised chief developments of importance in the state last week, though great interest also was shown in new gas completions and the possibilities for increased natural gas markets.

New interest was aroused in the Crystal-Ferris Townships field of Montcalm County where hopes for bolstering the declining production were seen in a test which struck oil south of Duck Lake, scene of Michigan's first underwater drilling.

Perhaps of greater importance, however, was the half mile eastward extension of the Porter Township, Midland County, field and completion of another successful test in Jasper Township, same county, indicating possible direct connection of the Porter and Yost areas still producing more than half the state's daily output of crude.

Porter-Yost

Pure Oil Co. No. 2-D John B. Rayner, C N NW SE section 12-13n-2w, Jasper Township, Midland County, located about half way between the Porter and Yost, or Jasper pools, made about 125 bbls. a day in the Dundee. If it proves the connecting link between the two pools, it will result in an extensive drilling program and possibly will increase production in this section where wells have proved more reliably steady than in the Crystal or other pools.

Rex Oil & Gas Co. No. 1 Lyons, SW SW NE section 23-13n-1w, added a half-mile east extension to the Porter pool when it made about 50 bbls. initially from the Traverse at 2,900 feet.

Two other tests in the same section also were nearing completion. Pure No. 4 Frank Howland, SE NW NW section 23, was being treated with acid after striking a show of oil in the Dundee at 3,422 feet, while the Rex Co. No. 1-B Frank Howland, NW NW SW, same section, was drilling below 3,000 feet.

Two other Porter Township tests in other sections also were near Dundee completion. Joseph Trever No. 1 Mrs. F. Forbes, SW SW SW section 22, which until recently had been testing for production in the upper Traverse, was drilling below 3,300 feet. The other was the Jetter Oil Co. No. 1 French, NE SW SE section 14, a semiwildcat extension test drilling by a string of tools lost in the hole at about 3,400 feet.

Twenty-three tests, including 14 in Jasper and nine in Porter Township, were in various stages of development ranging from clearing location to drilling near 3,000 feet.

Crystal-Montcalm

A possible south extension of the Crystal Township area in Montcalm County was revealed when the Her-Ka-Mon Oil & Gas Co. No. 1 Will DeYoung, NE NE NW section 15-10n-5w, struck a show of oil in the Dundee and was shut down for acid treatment.

Located south of Duck Lake and about 1,400 feet east of Fred W. Turner's unsuccessful McConkie test in section 10, the DeYoung is expected to bring new development not only south of Duck Lake but also under the bed of the shallow body of water where two successful wells already have been drilled on the north and east shores.

J. W. Leonard, Jr., trustee, No. 1 Maud Hoover, SW NE NE section 11, Crystal Township, brought in two weeks ago making 60 bbls. the first hour, was treated with acid last week and expected to make about a 200-bbl. Dundee well despite water encroachment.

Two other Crystal Township tests were being completed, namely: Daily Crude Oil Co. No. 1 Milo Strait, SE NE NE section 4, and Jetter Oil Co. No. 1 Laurence Pitcher, SE SE NW section 5, both drilling in the Dundee as edge tests.

Stork Oil Co. No. 7 George and Etta Dickenson, NW SW SE section 3, same township, was being plugged and abandoned, a dry hole in the Dundee. Fortney Oil Co. struck a flow of several million feet of gas in the Michigan Stray sands, but will deepen to the Dundee for oil in No 3 H. J. and Inez Fisher, NE NE NE section 2, Crystal Township.

Twelve other Crystal Township tests were active in addition to five locations made but not yet started to develop.

Ferris-Montcalm

Dougherty & Markey, Inc., No. 3 Fisher, SE SW SW section 36-11n-5w, Ferris Township, Montcalm County, made 170 bbls. a day after acid treatment in the Dundee at about 3,195 feet.

Burnstein Oil & Gas Corp. No. 7 Keel, SE NE SE section 35, Ferris Township, was a smaller producer of 35 bbls. a day from the Dundee after acid treatment.

Wing Brothers struck a flow of less than 500,000 feet of gas in the Michigan Stray sands in their No. 1 Jay Fulford, SE NE NE section 35, Ferris, so will continue to the Dundee for oil.

Seven other Ferris Township tests were drilling and one a location.

Daily Crude Oil Co. No. 6 H. P. Christensen, SE NW NE section 10-12n-6w, was a "duster" in the upper Traverse field in Home Township, Montcalm County, where only one other test was being started.

Vickerville Tests

Jetter Oil Co. No. 1 C. McCracken, NW SE SE section 6-9n-5w, Bloomer Township, Montcalm County, was about to be drilled into the Dundee. It was near 3,100 feet deep. The Jetter-Long well, discovery well, came in at 3,112 feet for about a 60-bbl. pumper a mile west of the McCracken.

Michigan Gas & Oil Corp. No. 1 F. Youngs, NE NW SW section 1-9n-6w, Bushnell Township, had drilled to more than 3,150 feet with only a light show of oil in the Dundee. Drilling had not yet been suspended but hopes of success were slight.

Star Petroleum Corp. No. 1 James Ward, NE NE NW section 20, Bloomer Township, had been plugged back from the Dundee, where bottom water was encountered, to the Upper Traverse to test a show at about 2,900 feet before being abandoned.

McClanahan Oil Co. No. 1 Lincoln National Life Insurance Co. wildcat, SW SW NW section 29-12n-5w, Richland Township, Montcalm County, showed gas and water drilling in the Dundee at more than 3,300 feet.

Isabella County

McClanahan Oil Co. No. 1 John L. Ettinger, SW NW NW section 34-15n-3w, in Denver Township, Isabella County, made about 250 bbls. a day after acid treatment. Same company's B No. 1 State, SW NW SE section 34, Denver, filled up 2,000 feet with oil after drilling to a total depth of 3,620 feet in less than a month. The latter was being treated with acid.

Ogemaw County

Muskegon Development Co. No. 2 Cora Barber, SE SW NW section 28-22n-2e, West Branch Township, and Mills Oil, Inc., No. 1 Jaqua, NW NE SW section 6-21n-3e, Mills Township, were in the Dundee and completing. Two nearing the Dundee were the Ogemaw Crude Oil Co. No. 1 Gussman, SW SE SE section 19, West Branch Township, and Weber Oil Co. B No. 2 August Reinhart, SE SE SE section 27, same township. Both were drilling below 2,500 feet.

Gratiot County

Latest of a long series of attempts to open a commercial oil field in Gratiot County appeared doomed to failure last week when McPherson & Co. No. 1 George Sharrar test, NE SW SW section 11-11n-4w, Sumner Township, failed to strike oil in the Dundee limestone though the hole had been drilled to more than 3,330 feet. It probably will be plugged back to the Upper Traverse to treat a show encountered there on the way down.

Mecosta Gassers

About 26,000,000 feet of natural gas open flow was added to the output of the Tri-Townships field, of Mecosta and Montcalm Counties, by the completion of two new wells, each making 13,000,000 feet a day. Both were in Mecosta.

Stewart-Atha, Inc., No. 1 E. Cogswell, C SW SE section 29-13n-7w, Millbrook Township, Mecosta County, and Wiser Oil Co. No. 1 L. C. Culey, C SE NW section 30, same township, were the two new producers completed in the Michigan Stray sands.

The Wiser Co. No. 1 Roy Knox, C SW NE section 30, Millbrook, also struck a flow of 2,500,000 feet of gas but also drilled into water and was to be plugged back for possible commercial production.

Wildcat Tests

Two wildcat shows of oil were encountered in the Dundee limestone last week, one in Ionia County and the other in Tuscola County.

Drilling operations were suspended in the Terry Dale Michigan Corp. No. 1 Edgar A. Tew, SW SW NE section 12-6n-7w, Berlin Township, Ionia County, at about 2,750 feet.

Dr. Virgil R. D. Kirkham No. 1 Boyce Farm Co. tests, SW SW NW section 24-14n-7e, Wisner Township, Tuscola County, also struck oil and gas at about 2,630 feet in the Dundee topped at 2,604 feet.

Charles W. Teater No. 1 Nevins, NW NW NE section 18-32n-6e, Long Rapids Township, Alpena County, is attracting considerable attention as a Trenton test started with 15-inch drive pipe in the northeast corner of the lower peninsula. It is expected to reach the Trenton at less than 3,800 feet deep.

Petroleum Exploration Co. No. 1 A. J. Cable, SE NE SE section 12-5n-2w, DeWitt Township, Clinton County, was drilling in the Traverse.

Though not a wildcat, M. F. Whitehill No. 1 Tom Bell, NW NW NE section 11-17n-2w, Beaverton Township, Gladwin County, also was completing in the Dundee formation.

T. F. Caldwell, Inc. No. 1 Edgar Parker, SE SE SE section 21-18n-2w, Grout Township extension test near the Gladwin pool, also may drill into the Dundee this week.

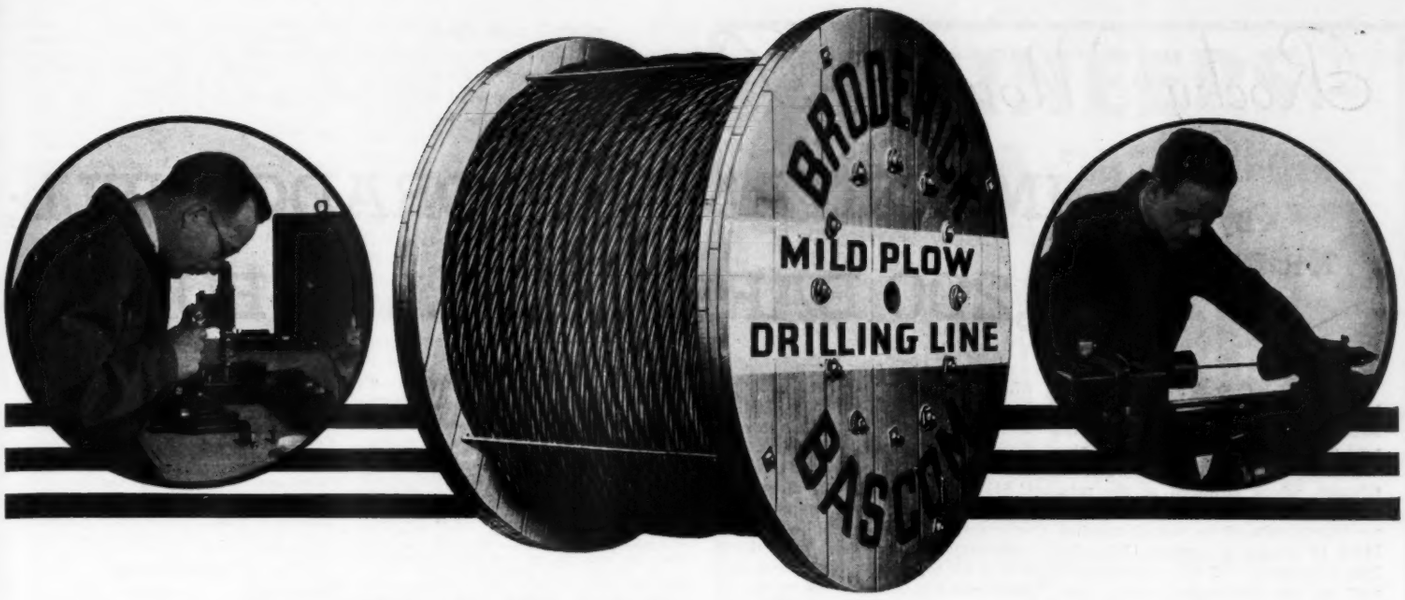
Frank Lyons No. 1 Charles Geiger, SW NW NW section 29-8n-8w, Otisco Township, Ionia County, was cased at about 2,900 feet and preparing to drill into the Dundee.

The Co-Op Oil Co. No. 1 George Hartwick, NW NW SW section 13-8n-9e, Oregon Township, Lapeer County, in an area where several small Berea wells previously have been producing, struck bottom water in the Traverse and was being plugged back to test the Antrim shale for gas.

E. M. Neff and others No. 1 Mabel L. Sippy, on the line between sections 26 and 27-16n-13w, Lilly Township, Newaygo County, is deepening to the Dundee after failure in the upper Traverse.

John B. Northcott No. 1 fee, SW SE NW section 31-15n-16w, Elbridge

(Continued on Page 80)



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Rocky Mountain Area

By
T. R. INGRAM

IMPORTANT COLORADO WELL; 6,200 BARREL WELL IN EUNICE

DENVER, Colo., June 1.—The largest well so far completed in southern Colorado was drilled in the past week in Archuleta County in the William E. Hughes estate No. 6 Gramps, which swabbed at the rate of 1,448 bbls. in 24 hours. The Carter Oil Co. placed on record another block of leases in eastern Colorado. The Continental Oil Co. is starting a well on the Wellington dome, first drilled in several years.

The California Co.'s No. 3 Holst, on the Quealy dome, in Wyoming, missed the pay and is abandoning. Lance Creek came into the limelight with a discovery of 40 gravity crude in the Tensleep, a horizon below present producing sands. The well is reported good for 3,000 to 4,800 bbls. a day. The General Petroleum Corp. will drill a wildcat on the Gooseberry dome, in Park County.

Montana will have a new pipe line from the Cut Bank field to Great Falls following closing of a deal for the purchase of 3,500,000 bbls. of crude by the Home Oil & Refining Co. from a group of producers. Five wells were completed in Cut Bank, one of which gauged 9,656,000 feet of gas. Two wells were completed in the Kevin-Sunburst field, one of which started off flowing 10 bbls. an hour.

The big San Rafael Swell in Emery County, Utah, is to be tested this summer by the California Co.

NEW MEXICO

The largest producer completed during the week in New Mexico was the Tide Water Oil Co. No. 2 State "E," C SE SE section 16-21-36, in the Eunice area. After acid treatment, it flowed 6,216 bbls. of oil through 1-inch tubing choke and one-half inch casing choke in 24 hours. Gas gauged 1,750,000 feet. It had oil pay at 3,830 to 3,906 feet, total depth. Jim Murray No. 2 Wallace, C NW NW section 3-21-36, had oil pay at 3,746-3,846 feet, total depth, completed. After acidizing, it flowed 336 bbls. through three-quarters inch tubing choke in 24 hours, with 500,000 feet of gas. Shell Petroleum Corp. No. 1 State "E," C NE NE section 6-21-36, flowed 576 bbls. of oil natural in 24 hours, with 2,330,000 feet of gas. It had oil pay at 3,768-3,886 feet, total depth, completed. Gulf Oil Corp. No. 1 Frona Leck, C NW NE section 14-21-36, was acidized and flowed 384 bbls. through tubing in the first 24 hours. Oil pay was topped at 3,813 feet; total depth, 3,875 feet, completed. Continental Oil Co. No. 5-A-18 Meyer, C SE NE section 18-21-36, flowed 840 bbls. of oil natural through three-quarter inch tubing choke in 24 hours, completed. Oil pay was had at 3,856-3,933 feet, total depth.

In the Monument area, Amerada Petroleum Corp. completed No. 2 State "O," C SW NE section 30-19-37, at 3,964 feet, total depth, in pay topped at 3,862 feet. It was acidized and flowed 1,632 bbls. of oil through tubing. Gas gauged 1,380,000 feet. Continental Oil Co. No. 3 State "C," C SE NW section 30-19-37, flowed 960 bbls. of oil natural through three-quarters inch tubing choke and was completed at 3,959 feet, total depth. Pay was topped at 3,893 feet. Gas measured 768,000 feet. Ohio Oil Co. No. 2 State-Elliott, C NE SE section 30-19-37, flowed 1,200 bbls. through tubing in 24 hours after acidizing and was completed at 3,940 feet, total depth. Top of pay was 3,876 feet. Anderson-Prichard Oil Corp. No. 1 Britt "A," C SE SW section 6-20-37, had pay at 3,825-3,906 feet, total depth, completed. It was acidized and flowed 1,200 bbls. through 1½-inch tubing choke. Gas gauged 750,000 feet. Amerada Petroleum Corp. No. 1 Weir "B," C SW NE section 26-19-36, was acidized and shot and flowed 46 bbls. of oil through one-half inch tubing choke in 24 hours. It produced 3,500,000 feet of gas. Pay was had at 3,862-4,030 feet, total depth, completed. Skelly Oil Co. No. 2 State "D," C NE SE section 1-20-36, was completed at 3,886 feet, total depth, in pay topped at 3,800 feet. It flowed 600 bbls. of oil natural through tubing in 24 hours, with 500,000 feet of gas. Amerada Petroleum Corp. No. 1 State "S," C SE SW section 2-20-36, flowed 1,272 bbls. natural through 1-inch tubing choke and was completed at 3,915 feet, total depth. Top of pay was 3,811 feet. It produced 949,000 feet of gas.

In the Jal Sand area, Culbertson-Irwin & Stovall No. 1 J. B. Humphrey, C SE SW section 3-25-37, was abandoned at 3,702 feet, total depth. It had several shows of oil, and at total depth it flowed 6½ bbls. in 48 hours.

In the Artesia area of Eddy County, Red Lakes Oil Co. completed No. 6 State at 1,954 feet, total depth, 29 feet in the pay. After a shot, it produced 25 bbls. of oil through casing in 24 hours.

Lea County—Miscellaneous

Plains Prod. Co. No. 1 George Smith, C SE SE sec. 4-25-37. T.D. 3,750 ft.; to complete as gasser.

Texas Co. and Repollo Oil Co. No. 1 Lanehart, C NE sec. 29-25-37. T.D. 3,150 ft.; set 5½-in. csg.

Maljamar O. & G. Co. No. 6 Baisch, C NW SE sec. 21-17-32. T.D. 4,129 ft.; P.B. 3,950 ft.; blowed 75 bbls. daily; to reacidize.

Ohio Oil Co. No. 1 W. H. Turner, C NE SE sec. 29-21-37. Drlg. 3,602 ft.

Landreth Prod. Co. No. 1 J. W. Grizzell, C SE SW sec. 5-22-37. Drlg. 2,855 ft.

Rowan et al No. 1 Mattern, C SW SE sec. 7-22-37. Drlg. 2,985 ft.

C. & G. Oil Co. No. 1 E. Weir, C NE NE sec. 14-20-37. Wildcat; drlg. 3,890 ft.

Gulf Oil Corp. No. 1 E. King, C SW NW sec. 28-21-37. Drlg. 3,406 ft.

Gulf Oil Corp. No. 1 W. T. McCommack, C NE NE sec. 32-21-37. Drlg. 3,335 ft.

Continental Oil Co. No. 1 J. C. Farney, C SW SE sec. 5-23-36. Wildcat. Loc.

Gulf Oil Corp. No. 1 S. J. Carr, C NW SW sec. 3-24-37. T.D. 900 ft. Drlg. by.

Gulf Oil Corp. No. 2 N. F. Humphreys, C NE NW sec. 25-25-36. T.D. 3,185 ft.; standardizing.

Sun Oil Co. No. 1 Stuart, C NW NE sec. 15-25-37. T.D. 3,390 ft.; swabs 32-35 bbls. daily. Preparing to pump.

Continental Oil Co. No. 2-A-19 Eaves, C SW SW sec. 19-26-37. Drlg. 448 ft.

Gulf Oil Corp. No. 1 J. A. Stuart, C SW NE sec. 10-25-37. T.D. 2,475 ft.; set 9⅝-in. csg.

Gulf Oil Corp. No. 1 L. M. Buffington, C NW SW sec. 13-25-37. T.D. 1,450 ft. Flows 5 bbls. wtr. per hour behind pipe.

Sun Oil Co. No. 1 Lanehart, C SE SE sec. 20-25-37. Drlg. 1,905 ft.

Humble O. & R. Co. No. 1 Lanehart, C NE SW sec. 21-25-37. Drlg. 3,097 ft.

Humble O. & R. Co. No. 1 Hadfield, C NW SE sec. 21-25-37. T.D. 3,141 ft.; flowed 49 bbls. in 7 hrs.; testing.

Magnolia Pet. Co. No. 1 E. O. Carson, C NW SW sec. 28-21-37. Drlg. 1,430 ft.

Skelly Oil Co. No. 1 Stuart, C NE NW sec. 15-25-37. Rigging up rotary.

Texas Co. No. 1 Eula Alexander, C NW SW sec. 7-21-37. Drlg. 1,720 ft.

Byrd-Frost, Inc., No. 1-A-1 Wells, C NW SW sec. 1-25-36. Building rig.

Williams & Cockburn No 3 Miller, C SW SW sec 23-17-32 Drlg. 90 ft.

Eddy County

Etz Bros. No. 2 State, C NW SW NE sec. 16-17-30. Drlg. 2,860 ft. Hds. 5 bbls. dly.

Premier Pet. Corp. No. 2 Dexter "E," NW SW NE sec. 20-17-30. T.D. 3,275 ft.; acidized two times; flowed 8½ bbls. per hour with 1,000,000 ft. of gas; testing.

D. & B. Oil Co. No. 1 Jenkins, NW SW NW sec. 20-17-30. T.D. 3,258 ft.; tstg.; est. 200 B.P.D.

Dexter & Berry No. 1 Berry, NW NE NW sec. 21-17-30. Drlg. 2,988 ft. Heads 10 bbls. daily.

Dooley & Dixon No. 1 Commerce, C W½ NW NW sec. 18-20-27. T.D. 958 ft.; fishing for bit.

Tignor, Etz & Keys No. 4 Keys "A," C SW SE sec. 10-17-28. R.U. rotary.

Grayburg Oil Co. No. 7 Burch, C NW NE sec. 19-17-30. Loc.

Red Lakes Oil Co. No. 7 State, NW NW SE sec. 22-17-28. R.U. machine.

De Baca County

Mid-Continent Engineering Corp. No. 1 State, C NW SE sec. 27-4n-22e; T.D. 735 ft. Underreaming 10-in. csg.

Hobbs Area

Shell Pet. Corp. No. 1 State "E," C E half SE SE sec. 14-18-37. T.D. 4,374 ft.; P.B. 4,178 ft.; shut down and may abandon.

Continental Oil Co. No. 3-B-13 State, C NE SW sec. 13-18-37. T.D. 4,245 ft.; perforated csg. 3,290-3,309 ft.; swabbed 2 bbls. oil per hour; testing.

National Securities Oil Corp. No. 1 Linam, NE SE SW sec. 33-18-37; wildcat. Old well plugging back from 4,238 to 4,228 ft.; swabbed sulfur water; no oil; shut down for orders.

Shell Petroleum Corp. No. 4 Sanger, SW SW NW sec. 27-18-39. Drlg. 4,048 ft.

Cooper Area

Plains Prod. Co. No. 1 R. L. Mosley, C NW SE sec. 34-24-37. T.D. 3,551 ft.; flowed 12 bbls. in 24 hrs.; 1,000,000 ft. gas; tubing.

Southern Oil Corp. No. 1 Vaughan, C SW SE sec. 15-24-36. T.D. 1,646 ft.; set 7⅝-in. csg.

Southern Oil Corp. No. 1 Gates, C SW NW sec. 23-24-36. Drlg. 3,488 ft.

Skelly Oil Co. No. 5 Coates, C NE SE sec. 3-24-36. Spudded.

Sims Area

Samedan Oil Co. No. 1 Parks, 330 ft. from S and 400 ft. from W lines, SW¼ sec. 14-22-37. Drlg. 3,708 ft. in gray lime; heads 60 to 70 bbls. daily.

Continental Oil Co. No. 1-A-22 Elliott, C SW SW sec. 23-22-37. T.D. 3,539 ft.; fishing; flows 40 to 50 bbls. daily while fishing.

Skelly Oil Co. No. 1 Ella Simms, C NW SE sec. 3-23-37. Rig.

Penrose & Rowan No. 2 Cary, C NE SW sec. 22-22-37. Flowing 70 to 110 bbls. daily; tubing, to clean out and shoot.

Sun Oil Co. No. 1 Richards, C NE SE sec. 6-23-37. T.D. 3,798 ft.; swabbing.

Humble Oil & Ref. Co No. 1 W. B. Farrell, C SW SE sec. 22-22-37. Drlg. 2,650 ft.

Tide Water Oil Co. No. 1 A. Walden, C SE NE sec. 21-22-37. Drlg. 2,210 ft.

Magnolia Pet. Co. No. 1 Cary, C NE SE sec. 21-22-37. Drlg. 2,075 ft.

Penrose & Rowan No. 3 Cary, C SE NW sec. 22-22-37. T.D. 1,150 ft.; set 8¼-in. csg.

Continental Oil Co. No. 1-A-15 Elliott, SE SE SE sec. 15-22-37. Location.

Continental Oil Co. No. 1-A-21 Elliott, C SE SE sec. 21-22-37. Location.

Skelly Oil Co. No. 2 J. V. Baker, C NW NW sec. 27-22-37. Drlg. 665 ft.

Gulf Oil Corp. No. 1 F. C. King, C SW NW sec. 5-23-37. Rig.

Penrose & Rowan No. 4 Cary, C SW NW sec. 22-22-37. T.D. 1,146 ft.; set 8⅝-in csg.

Chaves County

Tannehill No. 2 Campbell, C NE SE sec. 1-11-25. T.D. 1,400 ft.; straightreaming; to set 5-in. csg.

Comanche Drlg. Co. No. 2 Sloop & Purcell, C NE NE sec. 15-11-26. Drlg. 757 ft

Eunice Area

Gulf Oil Corp. No. 8 Bell-Ramsey-State, C NW NW sec. 4-21-36. T.D. 3,870 ft.; set whipstock at 3,714-35 ft.; drlg. by at 3,754 ft.

Gulf Oil Corp. No. 6 Arnott-Ramsey "C," C NE NW sec. 21-21-36. Drlg. 3,795 ft.

Empire G. & F. Co. No. 4 State "D," C SE NE sec. 32-21-36, five-eighths mile N part of No. 157 lease. T.D. 3,941 ft.; acidized, waiting.

Gulf Oil Corp. No. 2 Janda "B," C NE SE sec. 32-21-36. T.D. 3,880 ft. in lime; waiting on standard tools.

Gulf Oil Corp. No. 1 Arnott-Ramsey "D," C NW NW sec. 32-21-36. T.D. 3,885 ft.; acidized, no help; reacidized, no help; flowing 27 bbls. daily on gas lift.

Continental Oil Co. No. 1-B-14 Lockhart, C SW NW sec. 14-21-36. Drlg. 3,720 ft.

General Crude Oil Co. No. 2 State "E," C NE SW sec. 32-21-36. Drlg. 3,420 ft.

Gulf Oil Corp. No. 1 Janda "C," C NW SW sec. 15-21-36. T.D. 3,892 ft.; swabbing to test.

Devonian Oil Co. No. 4 State-Heasley, C SW SW sec. 5-21-36. Drlg. 3,875 ft.

Atlantic Oil Producing Co. No. 1 State "K," C SE SW sec. 6-21-36. Drlg. 3,820 ft.

Shell Pet. Corp. No. 1 State "J," C SE SW sec. 32-20-37. T.D. 3,715 ft.; fishing.

Gulf Oil Corp. No. 9 Bell-Ramsey, C SW SW sec. 4-21-36. Drlg. 3,305 ft.

Gulf Oil Corp. No. 4 Orcutt, C SE NE sec. 6-21-36. Drlg. 3,155 ft.

Gulf Oil Corp. No. 7 Arnott-Ramsey "C," C NW NE sec. 21-21-36. Drlg. 1,900 ft.

Continental Oil Co. No. 6-A-18 Meyer, C NW NE sec. 18-21-36. Drlg. 1,265 ft.

Continental Oil Co. No. 9-B-4 Meyer, C NE NW sec. 4-21-36. Drlg. 3,585 ft.

Continental Oil Co. No. 10-B-4 Meyer, C NE NE sec. 4-21-36. Drlg. 3,552 ft.

Continental Oil Co. No. 11-B-4 Meyer, C SE SE sec. 4-21-36. Location.

Humble Oil & Ref. Co. No. 5 Adkins, C SE SW sec. 10-21-36. Drlg. 3,661 ft.

Samedan Oil Co. No. 1 Marshall, C SW NW sec. 13-21-36. Drlg. 2,455 ft.

Continental Oil Co. No. 5-A-18 Lockhart, SE SE SW sec. 18-21-36. Spudded.

Continental Oil Co. No. 2-B-18 Meyer, C NE NW sec. 18-21-36. T.D. 3,860 ft.; set 5½-in. casing.

Tide Water Oil Co. No. 1 State "G," C SE NE sec. 21-21-36. Drlg. 2,930 ft.

Landreth Prod. Co. and Ohio Fuel Supply Co. No. 1 State "E," C SW NW sec. 22-21-36. Drlg. 3,187 ft.

Texas Co. No. 2 State Aggies, C SW SE sec. 31-20-37. T.D. 1,200 ft.; set 9⅝-in. casing.

Humble Oil & Ref. Co. No. 1 State Aggies, C SE SW sec. 31-20-37. Set 7⅝-in. casing at 1,217 ft.

Continental Oil Co. No. 12-B-4 Meyer, C SE SW sec. 4-21-36. Drlg. 525 ft.

Devonian Oil Co. No. 5 State-Heasley, C NW SW sec. 5-21-36. Cellar and pits.

Devonian Oil Co. No. 6 State-Heasley, C NE SW sec. 5-21-36. Location.

Humble Oil & Ref. Co. No. 2 Knox, C SW SE sec. 10-21-36. Cellar and pits.

Gulf Oil Corp. No. 2 Collins, C NE NW sec. 14-21-36. Cellar and pits.

Monument Area

Gulf Oil Corp. No. 1 A. B. Reeves, C NW SW sec. 29-20-37. Wildcat; T.D. 3,859 ft.; P.B. 3,846 ft.; swabbed 8 bbls. fluid per hour; 20 pct. water; testing.

Gulf Oil Corp. No. 3 Graham-State "C," C SW NE sec. 24-20-36. T.D. 4,030 ft.; set packer at 3,875 ft., showed 2,724,000 ft. of gas; spray of oil, to lower packer.

Sun Oil Co. No. 6 Weir, C NW NE sec. 35-19-36. Building rig.

Amerada Pet. Corp. No. 1 State "R," C NE SW sec. 29-19-37. T.D. 3,814 ft.; set 6⅝-in. csg.

Texas Co. No. 4 State "E," C NE SW sec. 1-20-36. T.D. 3,535 ft.; fishing.

Continental Oil Co. No. 2-A-6 Britt, C NW SW sec. 6-20-37. Drlg. 3,778 ft.

Fred Turner, Jr., No. 1 State "A", NE NW SW sec. 2-20-36. T.D. 3,790 ft.; set 7-in. casing.

Texas Co. No. 3 Phillips, C SW NW sec. 6-20-37. Drlg. 3,430 ft.

Anderson-Prichard Oil Corp. No. 2 Britt, SE SW NE sec. 7-20-37. Rig.

Sun Oil Co. No. 1 State, C NE NE sec. 25-19-36. Drlg. 3,260 ft.

Anderson-Prichard Oil Corp. No. 1 State, C SW NW sec. 2-20-36. Drlg. 3,000 ft.

Amerada Pet. Corp. No. 3 State "O," C SE NE sec. 30-19-37. T.D. 3,954 ft., tstg.

Continental Oil Co. No. 4 State "C", C SW NW sec. 30-19-37. Rig.

Amerada Pet. Corp. No. 1 Lambert, NW NW NE sec. 6-20-37. Drlg. 3,800 ft.

Gulf Oil Corp. No. 1 S. T. Burk, C NE NE sec. 28-19-37 Drlg. 3,936 ft.

Texas Co. No. 1 State "J," C NE SW sec. 24-19-36. T.D. 3,750 ft.; set 7-in. csg.

Amerada Pet. Corp. No. 4 State "O," C NE NE sec. 30-19-37. Drlg. 3,546 ft.

Amerada Pet. Corp. No. 1 State "T", C SE SW sec. 25-19-36. T.D. 210 ft.; set 12½-in. casing.

Shell Pet. Corp. No. 1 J. A. Foster, C SE SE sec. 34-19-36. Drlg. 3,440 ft.

Amerada Pet. Corp. No. 3 Phillips, C SW NE sec. 1-20-36. Drlg. 1,220 ft.

Amerada Pet. Corp. No. 3 State "D," C SE NW sec. 1-20-36. T.D. 235 ft.; set 12½-in. csg.

Gulf Oil Corp. No. 4 Graham-State "C," C SW SE sec. 24-19-36. Drlg. 3,864 ft.

Gulf Oil Corp. No. 1 J. W. Smith, C SE NE sec. 24-19-33. T.D. 3,806 ft.; set whipstock at 3,526 ft.

Barnsdall Oil Co. No. 5 Cooper, C NE SE sec. 12-20-36. Drlg. 3,020 ft.

Gulf Oil Corp. No. 7 Culp, C NE NE sec. 19-19-37. Drlg. 3,445 ft.

Gulf Oil Corp. No. 1 D. A. Williams, C NW SE sec. 29-19-37. Drlg. 2,800 ft.

Empire O. & R. Co. No. 2 State "E," SE SE SW sec. 30-19-37. Drlg. 3,450 ft.

Ohio Oil Co. No. 3 State-Elliott, SW SW SE sec. 30-19-37. T.D. 1,239 ft.; set 9⅝-in. csg.

Anderson-Prichard Oil Corp. No. 2 Britt "A," C NE SW sec. 6-20-37. Loc.

Skelly Oil Co. No. 1 State "E," C SE NE sec. 29-19-37. Rig.

Empire O. & R. Co. No. 3 State "E," C NW SW sec. 30-19-37. T.D. 2,604 ft.; set 9⅝-in. csg.

Continental Oil Co. No. 2-A-3 Reed, C SE NE sec. 3-20-36. Drlg. 1,190 ft.

Texas Co. No. 1 State "K," C SE SE sec. 18-19-37. T.D. 295 ft.; set 13-in. csg.

Oilwell Drlg. Co. No. 2 State "A," C NW NE sec. 29-19-37. Rigging up rotary.

Ohio Oil Co. No. 4 State-Elliott, C SE SE sec. 30-19-37. Spudded.

Anderson-Prichard Oil Corp. No. 4 Britt, NE NW NE sec. 7-20-37. R.U. rotary.

Amerada Pet. Corp. No. 2 State "K," C NE NW sec. 29-19-37. Rig.

Amerada Pet. Corp. No. 1 Sarah Phillips, SE SE SW sec. 33-19-37. Rig.

Gulf Oil Corp. No. 2 Mathews, C NW SE sec. 6-20-37. T.D. 251 ft.; set 10¾-in. csg.

Amerada Pet. Corp. No. 5 Weir, C SW NW sec. 35-19-36. Rig.

Amerada Pet. Corp. No. 2 Lambert, C SW NE sec. 6-20-37. Bldg. derrick.

NORTHWEST NEW MEXICO

Bernalillo County

Norfine Realty Co., Inc., No. 2 Gallegas grant, SE NW NW sec. 19-11n-4e. Drlg. 1,600 ft. in sand and gravel.

Guadalupe County

Anton Chico Dev. Co. No. 2 fee, NW NE SW sec. 20-9n-17e. Drlg. 785 ft. in sand.

Harding County

Khaay et al No. 1 De Baca, C sec. 19-20-31e. Rng. 8¼-in. at 847 ft.; 10-in. at 250 ft.

McKinley County

S. Dysart et al No. 1 Bouton, CEL NW NE sec. 14-14n-10w. T.D. 1,490 ft.; rmg. at 775 ft.

Al Gibbons No. 1 fee, SW SW SW sec. 22-20n-9w. Spdg. 50 ft. (first report).

San Juan County

Atchison & Galloway No. Patd, C, SE SE sec. 19-29n-11w. Spdg. 75 ft.

W. L. Hair No. 1 Hair, NE NW NE sec. 23-29n-11w. S.D. 900 ft.

Kutz Canon O. & G. Co. No. 1 Day, SW SW SW sec. 20-28-10w. T.O. 4,400 ft.; pulled 4½-in.; C.O. 3,900 ft.

Continental Oil Co. No. 53 Tribal, SE SE NW sec. 2-29n-19w. T.D. 832 ft.; running 5-in. to S.O. water.

Nick Spatter No. 1 fee, C NE SW sec. 32-21-11w. S.D. 1,780 ft.; T.A.

Southern Union Gas Co. No. 6 Government, C NW NW sec. 19-28-10w. Drlg. 1,585 ft. sh.

Torrance County

45 Pet. Co. No. 1 Greenfield, C NW SW sec. 17-9-8e. Drlg. 1,750 ft. wh. L.

Bruce Frazier No. 1 Frazier, SE sec. 12-2n-31e. Drlg. 1,875 ft. gr. l.; S.D. in blue sdy. l. at 1,800 ft.

COLORADO

Adams County

Glenridge Oil Corp. No. 1 Hills, SE SE NE sec. 27-3s-64. T.D. 4,240 ft.; cmtd. casves; W.O.C.

Hiddle Pet. Co. No. 1 Baxter, C SW sec. 2-3s-6w. S.D. 700 ft. for D.P.

Archuleta County

The William E. Hughes estate completed its No. 6 Gramps on the Tierra Amarilla land grant on unsurveyed ground but approximately in the NW NE SE section 24-33n-2e. Price district, at an undisclosed depth as the best well so far finished in the new pool. In a four-hour swabbing test with an 8¼-inch swab it pulled 4,826 feet of oil, or at the estimated rate of 1,448 bbls. a day. The well was then shut in and no further test is planned at this time. The oil stood 900 feet in the hole when swabbing began and at the end of the period it stood 600 feet, below which depth it could not be lowered. The location of this well is approximately 1,000 feet to the northeast of No. 5 Gramps, which was estimated at better than 1,000 bbls. a day, and is the farthest north of the group of wells drilled. The production is coming from the Dakota sand. While the thickness of the sand is not disclosed, Lafayette M. Hughes, manager and attorney for the estate, said No. 6 Gramps had 40 more feet of Dakota sand than any of the other wells drilled.

The estate is drilling wells progressively for the purpose of determining the extent of the productive area and the geological outlines of the structure. Along with the subsurface determinations it is having a surface geological survey made and also is having the area mapped from an airplane by aerial photography. It was indicated that when conclusive information is obtained that more information will be given out regarding sand records. Locations have been made for Nos. 8 and 9 Gramps, both of which will be drilled to the north of the producing wells. No. 8 is moving in rig and No. 9 is building road.

The Oil City Petroleum Co. No. 1 Reeder, which is about 600 feet west of the Navajo River, the dividing line between the land grant and the surveyed land, which is expected to disclose whether the pool extends that far to the west, had a show for 25,000 feet of gas at 472 feet, followed by a good show of oil in sandy shale at 495 feet. This oil is believed coming from the same horizon which made considerable oil in the same company's No. 1-A Garnett, to the southwest, at 970 feet.

O. A. Larrazola, Jr., has made a location on the southern end of the Chromo dome, a separate structure and near the New Mexico line, and is under contract to spud by June 1.

The director of the U. S. Geological Survey has requested a survey made of the western part of the land grant and adjacent territory to determine accurate boundaries of the public domain and to assist the department in carrying out the provisions of the general leasing act on the permits held to the west of the river. The survey has been authorized and is awaiting the approval of the land commissioner. It will cover a few sections in Township 33n, Range 2e, through which runs the Navajo River. This river forms the western boundary of the land grant. The Hughes estate wells are all on fee land east of the river.

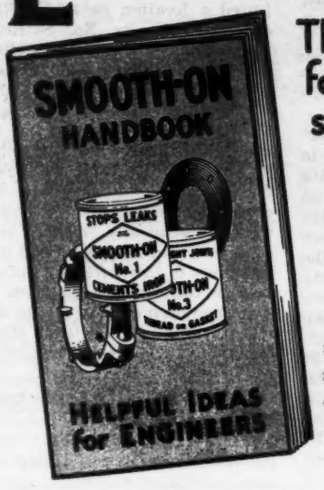
Wm. E. Hughes estate No. 7 Gramps, NW SE SE sec. 23-33na2e (unsurveyed). Drlg. 600 ft.

Oil City Pet. Co. and Archuleta O. & G. Co. No. 1 Reeder, Lot 5 (SW SE SW), sec. 24-33n-2e. Drlg. 495 ft.

Baca County

Paul R. Robb Pet. Corp. No. 1 Lovett, NW NW NW sec. 24-32s-48w. Cmtd. 12½-in. at 390 ft.

ENGINEERS:-



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Name_____

City_____ State_____

Huerfano County

Collins & Quinn No. 1 fee, C W half E half sec. 4-23s-68. Drlg. 3,825 ft. in new hole; old T.D. 4,115 ft.

Jackson County

Colorado Oil Ref. Co. No. 1 North Park Coal Co., NW NW sec. 18-9n-78w. T.D. 2,275 ft. (cor.); U.R. 12½-in. at 2,200 ft.

Jefferson County

Ruby Hill O. & G. Co. No. 1 Braden, SE SE SE sec. 24-4s-69w. Drlg. 4,446 ft. hd. l.

Kit Carson County

Leases on approximately 17 sections in the Smoky Hill district in Kit Carson County, in Townships 10s and 11s, Range 45w, were placed on record this week by the Carter Oil Co. Carter Oil Co. last week took over an undivided half-interest in the Hyde block in Washington County from the Indian Territory Illuminating Oil Co., which is starting a deep test. The Gulf Oil Corp. is represented in the Smoky Hill block with 24 or more sections, including Union Pacific railroad land. The Texas Co. has 18 scattered tracts and the Continental Oil Co. four tracts. The Plains Exploration Co. has some royalty interests. The Carter Oil Co. shot the block last summer.

Larimer County

The Continental Oil Co. has released a location on the Wellington structure for its No. 8 Buckeye-Union Pacific, C NE SW section 31-10n-68, and is digging cellar and pits. This is the first well to be drilled in the Wellington field in several years. It is a diagonal offset on the southeast to the discovery well which blew in November 11, 1923, for 80,000,000 feet of gas a day and was out of control for several months. Dry holes were subsequently drilled to the southwest and northwest and several producers to the northeast ond southeast in the same section, but there was some open acreage in the section which had not been drilled. Manning & Martin, Inc., have the contract. It will be drilled with rotary.

Continental Oil Co. No. 8 Buckeye-U.P., C NE SW sec. 31-10n-68. Cellar and pits (first report).

Lincoln County

Consolidated Smelting & Metals Co. No. 1 Hancock, NE NE sec. 7-17s-62. S.D. 2,050 ft. for csg.

Moffatt County

Mountain Fuel Supply Co. No. 1 Allen, NE SW SE sec. 32-12n-97w. M.I.M.

Texas Co. No. 3 Iles Inv. Co., 200 ft. E of W. line and 165 ft. S of N line, Lot 4, sec. 23-4s-82. R.U.

Morgan County

Swisher et al No. 1 Lunt, SE cor. sec. 3-4n-60w. S.D. 1,449 ft.

Park County

South Park Oil Vo. No. 1 Le Bert, NE NE NW sec. 21-11s-75w. Set 15½-in. at 60 ft.; compl. W.W. and S.D.

South Park Oil Co. No. 1 State, SE NE SW sec. 16-11s-75w. Drlg. 4,342 ft. in sdy sh.

Washington County

Indian Territory Ill. Oil Co. and Carter Oil Co. No. 1 Vance, C NE NE sec. 28-1s-49w. Mast of rig and equip, on ground; drlg. third W.W.

Weld County

Continental Oil Co. No. 1 State Bank of Trenton, C SW NE sec. 21-8n-69w. Drlg. 4,741 ft.

Yuma County

Indian Territory Ill. Oil Co. No. 1 Strangways, C NW SW sec. 21-2s-43w. Spd. May 21; set 20-in. at 527 ft.; W.O.C.

WYOMING

Albany County

The California Co. No. 3 Holst, NE SW SE section 13-17-77, Quealy dome, is being abandoned at a total depth of 3,420 feet. The derrick pulled in while fighting mechanical difficulties and it was decided to plug and abandon.

California Co. No. 1 Wilson, NW SW SW sec. 18-17n-76w. Drlg. 3,260 ft.

James Lake Oil Co. No. 1 George & Hunt, NW NE SE sec. 5-17-75w. Cmtd. 15½-in. at 200 ft.; W.O.C.

Big Horn County

J. W. Bales No. 1 Parker, C SW SW sec. 23-4-89. S.D. 690 ft. for pipe.

Joan Oil Co. No. 1 Howell, Lot 63 (NW SE NE) sec. 32-55n-97w. Resuming at 1,190 ft.

Montana-Wyoming Oil Co. No. 1-X Allen, Lot 52, sec. 18-56n-97w. Drlg. 910 ft.

Ohio Oil Co. No. 1 Orson Vail, SW NW NE sec. 23-56n-97w. Spdg. 310 ft.

Ohio Oil Co. No. 1 Robert Till, C SE SW sec. 24-56n-87w. Drlg. 4,025 ft.

Peay Oil Co. No. 1 Denio, Tr. 43-C sec. 15-56n-97w. T.D. 3,890 ft.; trying to cmt. off wtr. through hole in pipe.

Stock Oil Co. No. 1 Yates, CSL SW NE sec 33-56n-97w. Drlg. 2,280 ft. in sh.

Taylor Oil Co. No. 1, SW SW NW sec. 24-56n-97w. Rdy. to spd.

Carbon County

The Ohio Oil Co. No. 1 Alvy Dixon, NE NE SE section 34-20-78, Rock Creek field, an old well deepened to the Sundance and reported a completion last week at 3,314 feet, developed bottom water after swabbing 1,045 bbls. first day, and is plugging back to 3,284 feet for a shutoff.

General Pet. Corp. No. 1 Union Pacific, SW NW sec. 5-19n-83w. Coring 1,750 ft. in Cretaceous sh.; base Frontier 1,600 ft.

Ohio Oil Co. and California Co. No. 2 Union Pacific, C NE NE sec. 35-21n-79w. Crg. and rmg. at 4,518 ft.

Ohio Oil Co. No. 7 Diamond Cattle, N½ sec. 35-20n-78w. R.U.R.

Ohio Oil Co. and California Co. No. 3 Union Pacific, C NE SE sec. 23-21n-79w. Drlg. 3,975 ft.

Ohio Oil Co. No. 4 Dixon, SE SE SE sec. 34-20n-78. R.U. to deepen old well from Dakota at 3,242 ft. to Sundance (first report)

Ohio Oil Co. No. 2 Dixon, SE NE SE sec. 34-20n-78. R.U. to deepen old well from 3,094 ft. to Sundance.

Union Oil Co. of California and Mutual Oil Synd. No. 1 Union Pacific, 1,890 ft. from E line and 1,320 ft. from S line, sec. 1-18-78w. T.D. 4,400 ft. (cor.); redrlg. 4,085 ft.; old hole caved while S.D.

Fremont County

Tropic Oil Co. No. 1 Government, C SE SW sec. 34-27n-90w. T.D. 2,550 ft.; rng. 4½-in.

Sinclair-Wyoming Oil Co. No. 2-C Muskrat, NE NW sec. 1-33n-92w. Drlg. 762 ft.; 15½-in. at 255 ft. (form. No. 1 Kirsch).

Hot Springs County

California Exploration Co. No. 2 Government, NW SW NW sec. 4-44-96. T.D. 4,245 ft.; P.B. to 4,165 ft.; shot 80 qts.; cwdg. csg.

Ohio Oil Co. No. 73 Mill Iron Cattle Co., NE SW SE sec. 19-4n-98w. Drlg. 2,666 ft.

Stanolind O. & G. Co. No. 20 State-Ridgely, SE NE SE sec. 19-46n-98w. T.D. 3,931 ft.; swdg. csg.

Lincoln County

Senrab Oil Corp. No. 3 Government, CSL SE NW sec. 10-26n-113w. S.D. 1,020 ft.

Niobrara County

Lance Creek made another spectacular play in the past week when Ohio Oil Co. No. 5 Converse Sheep, C SE SW section 32-36-65, was reported to have come in for big production in the Tensleep sand below the red beds. The well is located on the apex of the dome. It topped the basal Sundance at 3,702 feet and cemented the 8⅝-inch at 3,711 feet and went into the red beds at 3,750 feet. At that point the operator discontinued giving out information regarding the well other than that it was to be drilled deeper to test the Tensleep, which has never been explored in Lance Creek. The only information given out is that the basal Sundance gauged 67 bbls. an hour.

From other sources the best information available is that the test was drilled to below 4,600 feet and was believed to have cored into the top of the Tensleep. The past week it began flowing and made 200 bbls. an hour naturally with 7,000,000 to 8,000,000 feet of gas. The surprising feature of the discovery is that the oil runs about 40 to 43 gravity, unusually high for black oil in this territory. Estimates place the production of the well at 3,000 to 4,800 bbls. a day. Around 1,500 acres in Lance Creek is expected to be productive in the Sundance. Whether the Tensleep area will be larger or smaller can be determined only by the drill.

Negotiations have been pending between the Ohio Oil Co., Standard Oil Co. (Indiana), the Continental Oil Co. and the Argo Oil Co. regarding the marketing of Lance Creek crude in the east. The Ohio company proposed to build a pipe line to a connection with the Stanolind Pipe Line Co. trunk line to Missouri, which is to be placed in service again this summer. It is reported this week that these negotiations have been terminated without agreement.

Argo Oil Co. No. 7 Elliott, C NE NW sec. 5-35n-65w. T.D. 4,009 ft., red beds; swbg.; won't flow; R.U. pump.

Black Hills Ref. Co. No. 1 Mills Est., C SW NW sec. 27-36n-64w. Spudded and S.D. account of weather.

Continental Oil Co. No. 6 Rohlff, C SW SW sec. 32-36n-65w. T.D. 3,819 ft.; 7-in. 3,776 ft.; 300 sacks; top first Sundance 3,561 ft.; top red beds 3,809 ft.

Continental Oil Co. No. 4 Joss, 90 ft. W of C SW NE sec. 6-35n-65w. Drlg. 3,881 ft.

Continental Oil Co. No. 2 Schuricht, 90 ft. E of C NW SE sec. 6-35n-65. Bldg. rig (first report).

Continental Oil Co. No. 2 Apex-3, C SE NW sec. 34-36n-65w. Drlg. 1,860 ft.

Lewis Gokel No. 1, NE SE NW sec. 31-35n-62w. Cmtd. 10-in. at 300 ft.; W.O.C.; (loc. cor.).

J. H. Huber Co. No. 1 Joss, NE SE NW sec. 6-25n-65w. T.D. 4,096 ft.; P.B. to 4,032 ft.; pumping 194 bbls. oil and same quantity of water; W.O. csg. tester.

MacKinnie Oil & Drlg. Co. No. 1 Thompson, NE NW NE sec. 7-35n-65w. Spdg.

Ohio Oil Co. No. 8 Lamb, C SW NE sec. 5-35n-65w. Drlg. 1,670 ft.

Ohio Oil Co. No. 5 Converse Sheep, C SE SW sec. 32-36n-65w. S.D. below 4,600 ft.; believed to have cored top of Tensleep.

A. G. Wickersham and G. M. Kyle No. 1 fee, NE NE NE sec. 14-39n-61. Spdg. (first report).

Park County

The General Petroleum Corp. has released a location for a test on the Gooseberry structure in the Big Horn Basin in its No. 1 Government, NW cor. section 33-47n-100. It will go to the Embar-Tensleep series at around 5,600 feet.

Sheridan County

Beaver Creek Oil Co. No. 1 Allison, SW SE sec. 15-55n-85w. Drlg. 3,081 ft.

Sublet County

Wright & Lackey No. 1 Haddenham, SE NW SW sec. 21-28n-113w. (Dry Piney); R.U. Fort Worth spudder (first report).

Sweetwater County

Mountain Fuel Supply Co. No. 1 Nightin-

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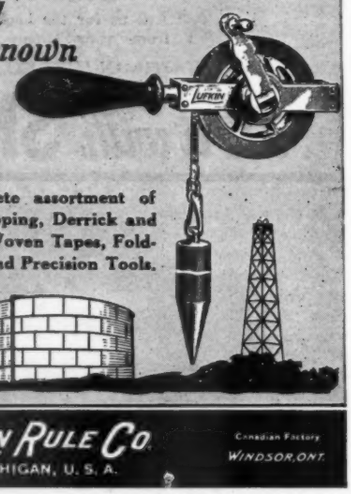

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gale, C SW NE sec. 32-16n-104w. Spdg. 130 ft.

Washakie County

Bruce C. Teeters No. 1 Brome-Gov't., CNL SW NW sec. 31-48n-90w. T.D. 1,540 ft.; 4-in. prod. strg. at 1,502 ft.; R.U. pump; est. 75 bbls.

Wyoming O. & R. Co. No. 2 Gov't., NW SW SW sec. 31-48n-90w. Drlg. 1,695 ft.; may P.B. to 1,400 ft. to str.

Weston County

Conway Oil Corp. No. 1 Gov't., C SE NW sec. 7-41n-60w. T.D. 2,304 ft.; W.O. csg. Chas. Stough No. 1, SW SW SW sec. 32-47n-63 M.I.M. (first report).

Harkins et al No. 2, NE SW NW sec. 31-46n-63. Loc. (first report).

H. D. Wiltse No. 8, NW NW NE sec. 17-46n-63. Drlg. 220 ft.

MONTANA

Big Horn County

Daniels Pet. Co. No. 1 May, C SE SE sec. 13-1s-33e. T.D. 3,350 ft., 300 ft. in red beds; water in top of red beds.

Fallon County

The Montana-Dakota Utilities Co. No. 1 Unit, NE NE NW section 17-4n-62, Little Beaver dome, made a sensational display after being treated with 2,000 gallons of acid, and will make a small well, but not up to earlier predictions. After acidizing it flowed 450 bbls. of fluid first two hours. Then it made 20 bbls. an hour through a one-fourth inch choke. In both tests it was estimated that the fluid was 80 per cent water. The water is held in suspension and would not separate from the oil.

Montana-Dakota Utilities Co. No. 1, NE NW sec. 17-4n-6e. T.D. 6,797 ft.; testing.

Fergus County

Minnesota Co. No. 1 Fenholt, SE NW SW sec. 24-21n-18e. Fshg. at 1,100 ft.

Judith Operating Co. No. 2 Government, NW NE sec. 35-22n-17e. Drlg. 1,010 ft.

H. C. Rowland No. 3 Government, CEL NE SW sec. 18-17n-24e. Drlg. 920 ft.

Kalispel-Kevin Oil Co. No. 2 Emmons, C SW SE sec. 20-21-18e. Drlg. 576 ft.

Glacier County

Five wells were completed in the Cut Bank field, of which one was in the gas area. Texas Co. No. 2 Allotted-122, Lot 1 (NE NE) section 6-32-5w, on an Indian lease in the southern part of the field, swabbed 227 bbls. first 16 hours and pumped 108 bbls. first 24 hours at a total depth of 2,874 feet. The Sunburst at 2,790-95 feet, was dry and the top of the Cut Bank sand zone at 2,813 feet. The pay was at 2,825-60 feet and the elevation is 3,636 feet.

The gas well was the Montana Power Gas Co. No. 1 Warfield Unit, CWL SW section 9-35-5w, which gauged 9,656,000 feet at 2,999 feet, total depth.

The Montana Headlight Oil Co. No. 3 Britton, NE cor. SE section 11-34-6w, swabbed 10 bbls. first 24 hours from 2,817-31 feet. It was then shot with 40 quarts and is cleaning out.

The Montana Power Gas Co. No. 2 Van Ormer, C SE SE section 8-33-5w, swabbed 35 bbls. first 24 hours before shooting, from the pay at 2,866-90 feet. It was then shot twice with 20 quarts and then with 40 quarts and has not been tested following shot.

Kately No. 3 Drumheller-Ward, C Lot 2, section 10-34-6w, a south offset to a dry hole, had 80 feet of fluid in the hole at a total depth of 2,945 feet. It cemented back to 2,910 feet and will shoot. The pay was at 2,900-07 feet. The Sunburst at 2,795-2,825 feet was dry.

Cobb-Pardee No. 1 Stufft, C SE NW sec. 25-36n-6w. T.D. 2,975 ft.; U.R. 7-in. at 2,880 ft.

Cobb-Pardee No. 2 Morrison, CEL NE SE sec. 24-33n-6w. Rig.

Consol. Gas Co. No. 1 Allotted-114, CNL NE SW sec. 31-33n-5w. Drlg. 1,750 ft.

A. E. Crumley No. 2 Allotted-113, SW NW SE sec. 31-33n-5w. R.U.

Dakota-Montana Oil Co. No. 1 Winkler, SW NE NW sec. 36-36n-6w. Drlg. 2,550 ft.

Goodman Oil Co. No. 1 Tribal, SW NW SW sec. 35-33n-6w. T.D. 3,005 ft.; fshg. tools; show oil in Cut Bank at 2,900-75 ft.; will go to Madison.

Hannah-Porter Co. No. 1 Allotted-130, C Lot 3, sec. 6-32n-5. Drlg. 575 ft

B. V. Hole No. 1 Tribal, C NW SW sec. 36-33n-6w. M.I.M.

B. V. Hole No. 1 Allotted-124, 640 ft. out of NE cor. sec. 1-32-6w. Bldg. rig.

R. C. Jeffries No. 4-A Lukens, NE NE NE sec. 12-33n-6w. Drlg. 2,715 ft.

Kincheloe-Hanlon No. 2 State, NE NE NE sec. 36-33n-6w. Drlg. 665 ft.; Colo. 395 ft.; 10-in. 426 ft.

Kately No. 4 Drumheller-Ward, SE NE NE sec. 10-34n-6w. Drlg. 740 ft.; Colo. 540 ft.; 10-in. 585 ft.

Montana Power Gas Co. No. 1 Langabeer Unit, SE SE NW sec. 17-35n-5w. Cellar (first report).

Montana Power Gas Co. No. 4 Seeba, SW SW NW sec. 2-34n-6w. Colo. 545 ft.; 10-in. at 575 ft.; drlg. plug.

Montana Power Gas Co. No. 1 Carrigeaux, 125 ft. W of C NE NW sec. 28-33n-5w. Drlg. 2,960 ft.

Nadeau Bros. No. 1 Ewald, C NE SW sec. 9-32n-5w. Bldg. rig (first report).

Nadeau Bros. No. 3 Farmers State Bank, C SW NE sec. 17-33n-5w. Running 7-in. at 2,900 ft.

Par Oil Co. No. 7 Haines, NW SW SW sec. 2-34n-6w. Drlg. 355 ft.

Santa Rita O. & G. Co. No. 2 Govt., NE SW NW sec. 31-33n-5w. Drlg. 2,200 ft. (form. McCabe).

Neil Spencer No. 2 Tweedy, 925 ft. NS line, 1,980 ft. 2 WL SE sec. 25-33n-6w. Drlg. 1,825 ft.

H. R. Patterson No. 1 Miller, C NE NE sec. 1-32n-6w. Spdg. 185 ft.

Stanley Gray No. 1 Allotted-132, NW SE NW sec. 22-34n-7w. Drlg. 2,350 ft. S.G. 2,145 ft.

Stewart No. 1 Knudson-All.-119, C SE SW sec. 1-32n-6w. Mat. on loc.

R. C. Tarrant No. 6 Britton, C SE SW sec. 12-34n-6w. Drlg. 2,798 ft.; 300 ft. oil.

R. C. Tarrant No. 6 Getty, SE NE SW sec. 2-34n-6w. R.U.

Tarrant-Long No. 5 Miller, C NE NE sec. 24-34n-6w. Drlg. 2,325 ft.

Texas Co. No. 1 Govt., C SW NE sec. 17-32n-5w. Str. cr. hole at 155 ft.

Texas Co. No. 6 Morrison, 6660 ft. S of NW cor. sec. 22-35n-6w. T.D. 2,852 ft.; 7-in. 2,849 ft.; W.O.C.

Texas Co. No. 2, Unit 9, C SW NE sec. 9-32n-5w. Drlg. 2,659 ft.

Wilkinson et al No. 1 Tribal, Tr. 127, C NE NE sec. 1-32n-66w. Rigged; W.O. engine.

Wilkinson et al No. 1 Tribal, 126, C NE NW sec. 7-32n-5w. Drlg. 2,100 ft.

Judith Basin County

Fletcher E. Hunt No. 3, NW SE NE sec. 30-14n-15e. Resuming at 350 ft.

Petroleum County

West Dome Oil Co. No. 1, SW SE NE sec. 9-15n-29e. Drlg. 1,293 ft.; first Cat Creek at 1,240-88 ft.; (test 5 bbls.); cased off with 5 3/6-in. at 1,290 ft.

Pondera County

Wm. M. Funton No. 1-A Price, SW NE NE sec. 18-27n-4w. Drlg. 200 ft.

Clinch Pet., Ltd., No. 1 Hollan, NW SW NW sec. 12-28-6w. Cmtd. cave at 2,000 ft.; W.O.C.

Warren Hastings No. 2 Erickson, NW SW NW sec. 10-27n-4w. Drlg. 1,875 ft., blk. L.

Texas Co. No. 1 Valier Unit No. 1, C NW SE sec. 32-31n-5w. Drlg. 2,005 ft.

Gordon Campbell No. 1 Hughes, NW NE NW sec. 12-30n-4w. Drlg. 600 ft.

Jones-Chambers No. 1 Erickson, SW SE SW sec. 3-27-4w. Bldg. dk.

Teton County

R. C. Tarrant No. 1 Wallenstein, NW NW SW sec. 9-37n-5w. R.U. (cor.)

Toole County

In the Kevin-Sunburst field Big West Oil Co. No. 1 Dalquist, SW NE NW section 21-35-3w, in the western end of the pool, started off flowing 10 bbls. an hour from the lime after acidizing and dropped to 2½ bbls. an hour at the end of 24 hours. It had the Ellis-Madison contact at 1,790-1,800 feet, which is also the total depth.

Coolidge & Coolidge No. 2 Shaw, SE SE SE section 26-36-2w, had 450 feet of oil from the Sunburst at 1,509-45 feet, but has not yet been tested.

A. E. Crumley No. 9 Shaw, SE SW NE sec. 35-36n-2w. Drlg. 450 ft.

Crumley & Son No. 4 Fryberger, SE NW SE sec. 24-35n-3w. Drlg. 150 ft.

Agen & Goeddertz No. 1 Goeddertz, C SE NE sec. 16-35n-3w. Drlg. 760 ft.

Alexander-Sorrell No. 1 Strange, NE NE SE sec. 31-35n-3w. R.U. (first report).

Carscallen & Mitchener No. 1 Krueger, 1,320 ft. W of E line, 1,980 ft. S of N line, sec. 10-34n-2w. T.D. 1,650 ft.; acidizided, did not recover load.

C. Leonard Smith No. 1, SW SE SE sec. 20-33n-2e. M.I. mac. (first report).

Continental Oil Co. No. 7 State, SE NE NE sec. 16-35n-3w. Spdg. 50 ft.

Fraser & Smith No. 1 Crabtree, NE NE SE sec. 14-34n-2w. T.D. 1,345 ft.; rng. 6¼-in.

Imperial-Craig Oil Co. No. 17 Bluhm, CWL NE NE sec. 19-35n-1w. Drlg. 1,445 ft.

Imperial-Craig Oil Co. No. 18 Bluhm, NW NE NE sec. 19-35n-1w. Drlg. 1,480 ft.

T. P. Kyle No. 1 Wolnsti, CSL SE SE sec. 3-33n-1w. Skid rig 330 ft. S; spdg.

Monopeg Oils, Ltd., No. 3 Dipple, CSL SW NW sec. 28-35n-1w. T.D. 1,450 ft.; R.U. to drill in.

Munger No. 1 Peterson, NW NW SW sec. 8-35n-2w. Drlg. 510 ft.

C. T. Olen No. 6 Engemoen, SE SW NW sec. 14-35n-2w. Drlg. 110 ft.

Burt Smith No. 1 Haugen, SE SE NW sec. 2-35n-3w. T.D. 1,245 ft.; run. 8¼-in.

E. O. Reickhoff No. 2 Govt., SW SW NE sec. 3-35n-3w. C.O. at 1,265 ft.

Welch Bros. No. 1 Dewald, SW NE NE sec. 26-36n-2w. Drlg. 1,731 ft.

Watson No. 1 Leach, SE SE NE sec. 31-35n-3w. Drlg. 400 ft.

Superior Oil Co. No. 4 Haugen, SW SE NE sec. 11-35n-3w. T.D. 1,806 ft.; Ellis-Madison 1,801-06; S.O. will acidize.

Newstead & Vanderpas No. 1 Solberg, NE NW SE sec. 20-35n-3w. S.D. 270 ft.

R. C. White No. 2 Haugen, CNL NE SE sec. 11-35n-3w. R.O.G. (first report).

UTAH

Emery County

The California Co. is moving in materials and building road for a test on the San Rafael Swell in Emery County, an immense uplift which forms an elongate oval whose axis is approximately 75 miles long and with a width of approximately 30 miles. The location is in section 22-23s-11e. A number of shallow wells have been drilled in the district in the past, but these mostly went only a few hundred feet and were no test of the structure. The only deep test was drilled by the Carter Oil Co. in 1922 in section 34-23s-11e, which was abandoned at 3,035 feet. The Ohio Oil Co., Midwest Refining Co., and others were associated with the Carter company in the drilling of this well.

California Co. No. 1 Newton Palm, C SW SW sec. 22-23s-11e, M.I.M. and bldg. road (first report).

Daggett County

Mountain Fuel Supply Co. No. 1 State, NW SE SW sec. 16-3n-24e. M.I.M.

Grand County

Columbia Crude Co. No. 1 Rath, SW SE sec. 12-35n-20e. Drlg. 664 ft.

Glenn Ruby et al No. 1 State, NE SE SE sec. 34-31s-16e. Drlg. 2,028 ft.

Utah County

Diamond Oil Co. No. 4 Govt., CSL SE NW sec. 10-8s-5e. Resuming at 3,956 ft.

Clay Tallman, general counsel for the Stanolind companies, who was in Washington, D. C., for nearly a month on legal business, has returned to Tulsa.

Carl Barker, director of public relations for the Shell Petroleum Corp., St. Louis, Mo., visited the Tulsa office and the Mid-Continent properties of the company last week.

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Eastern Field Report

FIFTH SAND STREAK YIELDS GOOD WELLS IN S. W. PENN.

By STAFF CORRESPONDENT

PITTSBURGH, Pa., June 1.—Twenty operations were completed in the lower eastern fields during the past week and additional new work started. Completions consisted of four gas wells, two fairly large, and 10 oil wells with an initial production of 186 bbls., most of which was accounted for by one new producer in Southwest Pennsylvania. In addition there were six dry holes. New deep tests are listed in West Virginia and Southeast Ohio.

SOUTHEAST OHIO

In Madison Township, Columbiana County, the Natural Gas Co. of West Virginia has made a location for a deep test on the Albert Ketchun farm. It is located about 1 mile northeast of the fair Oriskany sand gas well on the Margaret Jenkins farm. Another location has been tentatively mapped out about 1 mile west of the Jenkins farm.

On the W. Strudthoff farm, about 4,600 feet south of the Margaret Jenkins farm gas well, this company is drilling a deep test which is now in the Corniferous lime. The top of this formation was at 4,180 feet.

In Athens County, Carpenter & Glazier No. 9 John Smith farm, 2 miles south of Amesville in section 13, Ames Township, was dry and abandoned in the First Cow Run sand at 329 feet.

In Jefferson County the Eastern ut Co. second test in the NE quarter of section 32, Island Creek Township, was dry and abandoned in Berea sand at 1,575 feet.

In Licking County, Ralph Brothers, Inc., No. 4 Sevilla Parr, section 20, Franklin Township, is a 1-bbl. pumper in Berea sand at 708 feet.

In Medina County, the Litchfield Oil & Development Co. test on the Anna Everish farm, Lot 4, Litchfield Township, produced 4 bbls. from the Berea grit, depth 403 feet, after a shot.

In Washington County, 3 miles north of Layman, Lot 779, Palmer Township, Helen J. Burt completed a test on the C. C. and Cornelia Strauss farm in the Cow Run sand, depth 669 feet, and it produced 1½ bbls. the first day after shot. Three miles east of Dale, Lot 1,064, in this township, Charles D. Mosier and others completed a test on the John Pugh farm in the Cow Run sand at 475 feet. It produced 1 bbl. the first day, naturally.

In the SE quarter of section 23, Aurelius Township, Washington County, David Ripley completed a well on his own property in the Macksburg 700-foot sand and it is showing for 1 bbl. a day, naturally. It was drilled through the Keener sand. In section 34, Independence Township, Frank Creighton and others completed a test on the Thomas Shepard farm in the Grit at a depth of 1,938 feet. It is good for a half barrel pumper and was drilled down from the Peeker sand in which is was a 1-bbl. pumper.

In Wesley Township, Washington County, 2 miles north of Cutler, in section 25, the Leyde Oil & Gas Co. drilled a dry hole on the J. Verne Leyde farm in the Keener sand at 1,320 feet.

SOUTHWEST PENNSYLVANIA

In Amwell Township, Washington County, the Union Gasoline & Oil Corp. completed one of the best wells on the Fifth sand streak, on the Marion C. and Nettie Johnson farm (mapped as the Hiram VanKirk). It flowed 170 bbls. the first day, 115 bbls. the second day, and 85 bbls. the third day. It will be drilled somewhat deeper.

In this township along this Fifth sand streak, the South Penn Oil Co. is drilling three wells, A. V. Lewis and others one well and Pittsburgh Coal Co. one well.

In Morris Township, Greene County, the Duquesne Gas Co. drilled a test on the J. M. Clutter farm to a total depth of 3,216 feet through the Bayard sand and all formations were dry.

WEST VIRGINIA

There were three small producers completed during the week in West Virginia. In Roane County, J. T. Campbell and others completed a test on the T. J. Murray farm in Curtis district in the Salt sand at 1,724 feet. The top of the sand was at 1,610 feet with about 3 bbls. a day showing at 1,640-60 feet.

In Marion County, Rose M. Hanley and others drilled deeper the old No. 1 on the Libbie Phillips farm in Mannington district and put it to producing at 2,900 feet, the Thirty-foot sand. It will make about a quarter-barrel pumper. This well has not produced for 10 years. In this district, a well which has not produced for eight years was reconditioned and drilled in the Gordon Stray sand, 3,190 feet, and will make a 3-bbl. pumper. It is the No. 1 of Monroe & Laughlin on the George Wilson farm.

Gas Wells

Fair gas wells are still being brought in in the Salt Rock district in Cabell County. In McComas district, Pridemore & Adkins completed No. 3 on the Lucas heirs farm in the Big Injun sand and have a gasser gauging over 6,000,000 feet a day. The Big Lime was at 1,079-1,239 feet, the Big Injun sand at 1,298-1,302 feet and the gas struck at 1,300 feet.

In Liberty district, Marshall County, the Manufacturers Light & Heat Co. completed a test on the V. B. Pyles farm as a gas well in Maxon sand, total depth 2,008 feet. The top of the Maxon sand was at 2,000 feet and about 1,126,000 feet of gas at 2,202 feet.

In Pleasants County, the Boyce Drilling Co. drilled a test on the Soloman Robinson farm in McKim district through the Berea sand to a depth of 2,320 feet. It was dry in all formations and is being abandoned.

In Ritchie County, Clem S. Morris drilled No. 3 on the H. B. Ayers farm in Murphy district to a depth of 2,011 feet. It is a light gas well from the Salt sand (23,400 feet a day) and the Injun sand (26,544 feet a day). In Clay district, Lucas & Mahaney drilled a test on the Martin Loftus farm through the Injun sand to a depth of 2,070 feet and it was a dry hole.

In Roane County, L. C. Young and others completed a large gas well in the test on the John Rex Kee farm in Harper district. The total depth was 1,724 feet with the top of the Salt sand being at 1,682 feet and gas gauging over 5,000,000 feet a day at 1,693-1,708 feet and again at 1,713-1,724 feet.

Central West

Operations in Central Ohio, Kentucky, Illinois, Indiana

By GEORGE A. WHITNEY

FINDLAY, Ohio, June 1.—Few completions were reported from the Central West fields. In the Tiffin field in Seneca County, the Industrial Gas Co. No. 5 Frank Sherger, section 32, Liberty Township, is a gas well at a depth of 500 feet. R. E. Greene is drilling No. 3 T. C. and B. Schaull, section 30, same township. In Hopewell Township, Harpster & Co. brought in a good gas well on the M. Sendelberg farm, section 4. M. R. McPheron & Co. was drilling No. 5 on the Frank G. Fox farm, section 11, same township. O'Brien & Co. were drilling No. 1 on the J. W. Ditterman farm, section 3, Bloom Township.

In Sandusky County, Homer E. Keiser is drilling No. 17 Homer Russell, section 8, Jackson Township, and Klingbery & Co. are drilling No. 2 on the Edward A. Bowe farm, section 18, Scott Township, same county. In Rice Township, Montgomery & Co. are drilling No. 2 Hetrick, section 31, and Frank S. Miller is drilling No. 2 same farm. In Washington Township, George C. Dean abandoned six old wells on the J. T. Becker farm. In the same township, T. L. McMahan abandoned Nos. 1 and 2 C. H. Althoff, section 29. Home Banking Co. abandoned four wells on the Gerlack & Gerlack farm, section 29, and Home Banking Co. abandoned Nos. 1 and 2 on the Herman Haar farm, same section.

In Wyandot County, no completions were recorded, although there are eight wells drilling in the county.

In Wayne County, the Ohio Fuel Gas Co. No. 1 is a gasser on the Noa Hockenberry farm, section 31, Chester Township, at a total depth of 3,007 feet.

In Ashland County, the Ohio Fuel Gas Co. No. 1 A. J. Talbot, section 18, Jackson Township, produced an initial of 26 bbls. at a depth of 2,633 feet.

In Lorain County, William Dempsey No. 1 J. B. Cahoon, section 11, Avon Township, is a gas well at a depth of 2,313 feet. Same party is drilling No. 1 A. E. R. Snyder, section 15, same township. Schneider & Wyles are drilling No. 1 on the McBride farm, section 25, same township.

In Richland County, Ohio Fuel Gas Co. is drilling No. 1 on the Mansfield Building & Loan Co. property, section 5, Worthington Township.

In Tuscarawas County, East Ohio Gas Co. is drilling No. 1 Charles A. Lebold, Lot ¾, Sandy Township.

In Holmes County, Ohio Fuel Gas Co. No. 1 Phillips Mizer, section 26, Paint Township, is a gas well at a depth of 4,032 feet. Same company is drilling No. 1 Moses S. Miller, section 29, same township, and is drilling No. 1 Thomas L. Hughes, section 34, same township. Pure Oil Co. has a rig up for No. 3 S. S. Troyer, section 32, Hardy Township.

In Summitt County, Brooks Johnson No. 1 on the F. and J. Bowman farm, section 17, Twinsburg Township, is a gas well at a depth of 386 feet. Same operator is drilling No. 2 Robert Gillie, section 13, same

(Continued on Page 75)

Oklahoma Operations

By
DAL DALRYMPLE

DEEP SAND POOL OPENED IN CEMENT; BURBANK EXTENDED

The Cement area of Caddo County, where deep sand production has been discovered, featured the oil news in Oklahoma the past week, although several other fields were not without interesting developments. New producing wells tapped the rich Wilcox sand pay in the Capitol extension of the Oklahoma City field, and the northwest limits of the area were indicated when one key test encountered salt water. The opening of a viola lime pool in Love County appeared imminent at the weekend. A new Osage County producer narrowed the distance between the Burbank and South Burbank pools. Sizeable producers were completed in the Fitts, Billings, Lucien and Crescent fields.

Marathon Oil Co. No. 4 Marchand, SW SE NW section 2-5-9w, on the north side of the old Cement field in southeastern Caddo County, flowed 442½ bbls. of oil in nine hours when tested Saturday. It was shut in for larger separator and more tankage. Gas production was estimated at 50,000,000 feet This well topped a new deep sand at 6,285 feet, total depth 6,367 feet. Lease trading has been fast around the well, with the buying covering a wide area north and east of the old shallow field. More drilling tests were due to start right away as a result of the strike, and two deep wildcat tests that will augment the search for the deep sands in the Anadarko basin were starting in Grady County. Ray Stephens and others No. 1, NE corner section 1-3-8w, was moving in material. John Graham and others No. 1 Castleberry, SW SE NW section 8-5-7w, northeast of the Chickasha gas field, was reported ready to spud.

Northeast of Marietta in Love County, Amerada Petroleum Corp. and Stanolind Oil & Gas Co. No. 1-A Westheimer, SW SE SW section 27-Cs-2e, was showing for a Viola lime producer after it had failed to find oil in the deep horizons. When salt water was encountered at 7,363 feet, it was plugged back to 2,798 feet to test Viola lime. The pipe was ripped between 2,400 and 2,700 feet and 600 feet of live oil filled the hole It was bailed to within 50 feet of bottom, and the crew was setting tubing to acidize the lime. Production was estimated at 50 to 75 bbls., and it was hoped this would be increased considerably by acidizing.

Burbank Extended

The Burbank field of Osage County was extended to the southeast by Lewis Production Co. No. 2 Callahan, SW SE SW section 23-26-6. It had Burbank sand at 2,834 to 2,907 feet, total depth, and flowed 1,410 bbls. naturally. After a shot with 120 quarts, it flowed 3,311 bbls. in 24 hours. Several new tests in the area between the Burbank and South Burbank pools were due for early starts.

Hopes of big production to the north and west in the Capitol extension of the Oklahoma City field were dimmed when salt water intruded at the Barnsdall Oil Co. No. 1 Lyons, in section 22-12-3w, in Block 5 of McKnabb-Hunt Addition. It flowed 546 bbls. of oil in six hours before salt water appeared. This well determines the water level for the area at minus 5,297 feet. Surface elevation is 1,213 feet, and first water was encountered at 6,510 feet. It is three blocks west of the Phillips Petroleum Co. and others No. 1 Sawyer, which was completed as a 20,000-bbl. producer. Over on the northeast side of the field. British-American Oil Co. No. 2 McNabb, on the McNabb Park lease, made a potential of 15,486 bbls. of oil. It is the second big producer on the lease, with three more wells nearing completion. Phillips Petroleum Co. and others No. 1 Vista, in Block 10, Alta Vista Addition, made potential of 13,004 bbls., with 14,000,000 feet of gas. Total depth is 6,500 feet. It extends big production three blocks west of the rich Pearsol Tract, and was encouraging to other operators along the west side of the Capitol area. Several wells were due to complete this week.

Allowable Cut

The percentage allowable for wells in the Wilcox zone of the Oklahoma City field has been reduced from 6.4 to 4.5 per cent for June by the Oklahoma Corporation Commission. The general cut in allowables for the state to 524-875 bbls. per day and the fact that a large number of wells in the Capitol area are due to be completed in June brought about the drastic reduction. Field engineers estimate 60 wells will be completed in the new area by the end of June, thus increasing the field's potential to a much larger total. Meanwhile, operations are slow to start in the new areas recently zoned for drilling. There will be little, if any, drilling in the exclusive Lincoln Terrace and Howes Capitol additions until the issue has been fully threshed out in the courts.

Pontotoc County

Stahl Petroleum Co. No. 3 Dennis, SW SE SW section 21-2-7, in the Fitts field of Pontotoc County, made potential of 3,374 bbls. after acidizing with 10,000 gallons, completed. Production was from Viola lime, topped at 3,923 feet, and Bromide, topped at 4,195 feet; total depth, 4,335 feet. It was acidized with 3,000 gallons and flowed 240 bbls. in one-half hour before reacidizing. Samedan Oil Co. No. 2-B Holkum, NE SW NE section 27-2-7, topped Hunton lime at 3,291 feet; 3,366 feet, total depth. It was acidized with 5,000 and 10,000 gallons and flowed 1,250 bbls. of oil net in six hours, completed. Gas gauged 3,500,000 feet. Blackstock & Deaner No. 1-A Moody, NE cor. section 27-2-7, also was completed as a producer from Hunton lime, topped at 3,396 feet; total depth, 3,751 feet. It flowed 350 bbls. in three and one-half hours before acidizing and flowed 513 bbls. in three hours after acidizing.

Magnolia Petroleum Co. No. 1 Shelton, SW SE SW section 28-2-7, was completed at 4,392 feet, total depth, 1 foot in Wilcox sand. It flowed 629 bbls. in two hours and 40 minutes while running tubing and made potential of 2,736 bbls. Same operator's No. 8 Simpson, NE cor. section 29-2-7, topped Hunton lime at 3,462 feet; Sylvan shale, 3,759 feet; total depth, 3,764 feet. It was acidized and flowed 529 bbls. in seven hours through casing and tubing, completed.

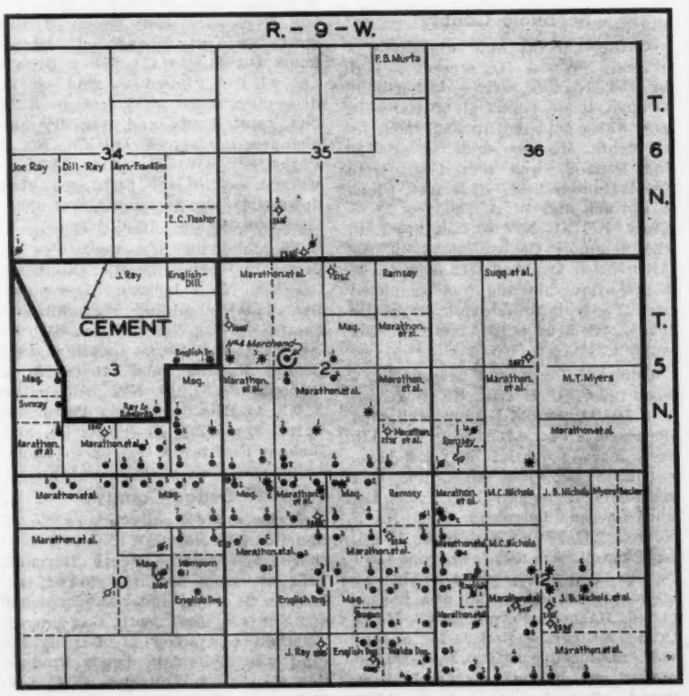
E. H. Moore and others No. 5-A Harper, SW NW NE section 29-2-7, topped Viola lime at 3,864 feet; Bromide, 4,130 feet; total depth, 4,340 feet. It flowed 574 bbls. in one hour, made potential of 3,036 bbls. and was completed. Same operators' No. 6 Schauers, SW SE NW section 29-2-7, made potential of 2,896 bbls., with 3,200,000 feet of gas, and was completed at 4,350 feet, total depth. Bromide was topped at 4,035 feet; McLish, 4,250 feet. Sinclair Prairie Oil Co. No. 6 Burris, NE NE NW section 27-2-7, made potential of 2,639 bbls. after acidizing and was completed at 4,300 feet, total depth. Top of Viola lime was 3,896 feet; Bromide, 4,180 feet.

Texas Co. No. 1 Simpson, SE NW SW section 12-1-7, south of the Jesse area, was bottomed at 5,761 feet, plugged back to 5,170 feet, drilled to 5,415 feet and was dry and abandoned. Tops follow: Atoka dense, 2,550 feet; Wapanucka, 3,465 feet; Cromwell, 4,235 feet; Mayes, 4,760 feet; Woodford, 4,810 feet; Hunton, 4,955 feet; Sylvan, 5,260 feet; Viola, 5,365 feet; Bromide, 5,510 feet. Texhoma No. 1 Fitzgerald, SE NE NW section 2-5-8, in the Allen area, was dry and abandoned at 1,175 feet.

No new work was reported in Pontotoc County.

Continental Oil Co. No. 1 House, NW NW SE section 12-1-7, was shot with 80 quarts at 4,675-4,738 feet, and flowed 1,286 bbls. of oil in three hours and 45 minutes. It was bottomed at 4,738 feet.

Fleetborn Oil Corp. No. 2 Morin, SW SE SE section 20-2-7, was acidized and flowed 125 bbls. of oil an hour for three hours. Hunton lime was topped at 3,534 feet; total depth, 3,826 feet. Mid-Continent Petroleum Corp. No. 2 McKoy, SE SE SW section 20-2-7, was acidized with 6,000 gallons after it failed to flow fol-



Marathon Oil Co. and others No. 4 Marchand, on the north edge of the old shallow field at Cement, Okla., revived activity in the area with discovery of deep pay

(Mid-Continent Map Co., Tulsa, Okla.)

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lowing a previous acid treatment, and swabbed 40 bbls of oil net in 24 hours. Total depth was 3,893 feet. E. H. Moore No. 11 Schauers, SW NE NW section 29-2-7, was acidized at 4,131 feet and flowed 328 bbls. in one and one-half hours. It was deepened, flowed 474 bbls. in two hours at 4,294 feet, and was shut in at 4,310 feet, total depth.

Estimated Production

Estimated daily average production of Oklahoma for the week ending May 30 and for the preceding week is as follows:

	Barrels	
	May 30	May 23
Allen	7,700	7,700
Asher-West Asher	775	800
Burbank	7,750	7,500
South Burbank	15,750	14,500
Balance Osage	23,500	23,500
Balckwell district	4,750	4,475
Bristow-Slick	8,250	8,500
Chandler	3,950	4,000
Crescent	5,250	5,550
Cromwell	3,800	3,800
Cushing-Shamrock	11,500	11,750
Duncan district	4,100	4,125
Edmond	12,725	12,500
Fish	9,800	9,825
Fitts	56,475	56,225
Gray	1,650	1,650
Graham	4,100	4,125
Healdton	9,200	9,175
Hewitt	4,500	4,475
Holdenville	1,075	1,075
Keokuk	7,500	5,500
Konawa	1,650	1,825
Lucien	13,500	13,750
Marshall-Lovell	975	975
Oklahoma City	110,575	141,325
Olympic	7,600	7,750
Papoose	1,050	1,075
Polo	3,550	3,600
Sasakwa and townsite	3,975	4,100
Sholem-Alechem	3,625	3,675
Seminole field:		
Bowlegs	13,250	13,575
Carr City	7,200	7,225
Earlsboro	7,325	7,400
South Earlsboro	950	950
East Earlsboro	10,825	11,050
Little River	13,375	13,700
East Little River	1,175	1,300
Maud	850	925
Mission	2,575	2,550
Seminole	11,350	10,950
East Seminole	3,300	3,425
Searight	5,650	5,675
Total Seminole	77,825	78,725
St. Louis-Pearson	26,375	25,175
Tatums	3,425	3,525
Tonkawa-Garber-Thomas	5,450	5,500
Wewoka	3,925	3,900
Yale-Jennings	4,000	4,025
Other pools	60,000	58,500
Total Oklahoma	531,600	558,675

Seminole County

Carter Oil Co. and others No. 1 Wilson, NW SW NE section 35-11-6, in the Keokuk area of Seminole County, made potential of 720 bbls. and was completed at 4,127 feet, total depth. Misener sand, the producing horizon, was topped at 4,115 feet; Hunton lime, 4,124 feet. Clark & Cowden and W. A. Delaney No. 1 Cully, NE NE NW section 13-5-7, in the Seminole County sector of the Allen area, swabbed 692 bbls. in 48 hours after shot and was completed at 4,255 feet, total depth. Dolomite was topped at 4,190 feet; Wilcox sand, 4,245 feet.

Gulf Oil Corp. and others No. 2 Scott 43-C, C E half SE NW section 11-10-6, an old Keokuk well, was deepened from 4,152 feet to 4,170 feet, made potential of 2,515 bbls., cutting 4 per cent water, and was recompleted. Sinclair Prairie Oil Co. and Amerada Petroleum Corp. No. 5 Sunny, NE NW NW section 14-7-6, an old well, was deepened from 4,270 feet to 4,350 feet, pumped 25 bbls. of oil net in 24 hours and was recompleted. Magnolia Petroleum Co. No. 1 Cudjo, NE cor. section 24-7-6, an old well, produced 5,000,000 to 7,000,000 feet of gas, but was dry and abandoned after deepening from 3,109 feet to 3,277 feet. Texas Co. No. 2 Steward, NW SW NE section 19-9-7, an old well, was plugged back from 4,121 feet to 3,550 feet, shot with 20 quarts, flowed 1,270 bbls. in 48 hours and was recompleted.

New work in Seminole County follows: Winona-Jarvis-Holmes No. 1 Wolf, SW SW SE section 18-7-8, rigging up rotary; R. W. Vierson and others No. 1-A Burden, C NE SW section 23-8-6, set 12-inch casing at 37 feet; Texas Co. No. 2 Carolina, SW NW SE section 27-8-8, an old well being deepened, drilling at 4,225 feet; W. A. Delaney No. 1-A Boring, NW SE NW section 20-9-7, building rig; Twin State Oil Co. No. 1 Hamm, SE SE SW section 24-10-7, location; Amerada Petroleum Corp. and others No. 1 Klabzuba, SW SW SE section 35-11-5, cellar and pits; Carter Oil Co. and others No. 4 Aldridge, C S half NE NW section 35-11-6, moving in rig; same operators' No. 1 Diamond, C S half NW NE section 35-11-6, rigging up rotary.

Hughes County

Three new Senora sand producers were completed in the Olympic pool of Hughes County and one well failed to find the sand. Carter Oil Co. No. 6 Hampton, NW SE NE section 1-9-8, topped sand at 1,673 feet; total depth, 1,740 feet; was shot with 65 quarts, flowed 254 bbls. in 18 hours and was completed. Mid-Continent Petroleum Corp. No. 8 Hampton, NW NW NE section 1-9-8, flowed 240 bbls. in seven hours after shot and was completed at 1,720 feet, total depth. Top of Senora sand was 1,664 feet. J. A. Chapman No. 2 fee, NE NE NW section 1-9-8, topped Senora sand at 1,680 feet; total depth, 1,703 feet. It flowed 150 bbls. of oil and 225 bbls. of water in 24 hours, completed. George Manahan and others No. 2 Oliphant "D," NE SE SW section 12-9-8, on the south side of the field, failed to find Senora sand, and was dry and abandoned at 1,805 feet, total depth.

The Amerada Petroleum Corp. and Stanolind Oil & Gas Co. No. 2 Kirby, SW NW NW section 6-9-9, east of Olympic, drilled to 1,814 feet, total depth, and failed to find Senora sand. It plugged back to 690 feet, drilled to 701 feet, was shot, produced salt water and was abandoned. Minnehoma Oil & Gas Co. No. 2 Brown, an old well, failed to find oil by deepening from 3,922 feet to 3,260 feet, total depth, and was dry and abandoned. Caprock Oil Co. No. 1 Parks, SW SW SE section 34-7-8, a wildcat east of the Fish area, shut down since last September, was abandoned at 300 feet, total depth.

The following new work was reported in Hughes County: Oklahoma Oil Corp. No. 2 Jackson, SE cor. section 11-9-8, building rig; Sinclair Prairie Oil Co. No. 3 Kirby, SW SE NE section 11-9-8, building rig; George Manahan and others No. 2 Oliphant "A," SW NW SE section 12-9-8, location; Amerada Petroleum Corp., Stanolind Oil & Gas Co. and Sinclair Prairie Oil Co. No. 1 Yahola, cellar.

Osage County

Carter Oil Co. and others No. 7 Manahan-Ducotey, SW NE NW section 3-25-6, in the South Burbank area of Osage County, flowed 561 bbls. in 24 hours and was completed at 2,889 feet, total depth. Gas gauged 2,500,000 feet. Top of Bartlesville sand was 2,810 feet. Lewis Production Co. No. 4 Whitehorn, NW NW SW section 10-24-7, in the Naval Reserve area, had Bartlesville sand at 2,496-2,528 feet; total depth, 2,570 feet. It plugged back to 2,535 feet, was shot and flowed and swabbed 70 bbls. in 18 hours. Production was estimated at 105 bbls. daily.

J. W. Field No. 2-A Osage, C W half E half SW section 12-21-11, pumped 5 bbls. of oil after a shot and was completed in sand at 1,793-1,835 feet, total depth. Harland Oil Co. and others No. 77 Osage, NE NW NW section 25-24-11, pumped 3 bbls. of oil in 24 hours after a shot and was completed after plugging back from 1,868 feet, total depth, to 1,820 feet. It had Bartlesville sand at 1,707-1,820 feet. C. I. Sills No. 12 Osage, NW SE SW section 8-23-11, an old well, was deepened from 1,808 feet to 1,935 feet, plugged back to 1,870 feet, was shot, pumped 5 bbls. daily and was recompleted.

Two Osage County wildcats were given up as failures. Champlin Refining Co. No. 1 Osage, SW SW NE section 35-25-6, south of the Fairfax and South Burbank areas, had a hole full of water at 2,930-35 feet, total depth, and was abandoned. Bartlesville sand was topped at 2,745 feet; Chat, 2,900 feet. Elfred Beck No. 1 Osage, SE SE NE section 6-23-7, southwest of the Naval Reserve, had a hole full of water at 2,615-40 feet, total depth, and was abandoned. Top of Bartlesville sand was 2,590 feet.

New work in Osage County: Bay Oil Corp. and others No. 2 Osage, SW SE NW section 25-22-7, location; Lewis Production Co. and Continental Oil Co. No. 13 Ah-Ka-Me, NE SW SE section 9-24-7, location; same operators' No. 14 Ah-Ka-Me, NW SE SE section 9-24-7, location.

Pawnee County

J. L. Donahue No. 2 Vaughn, SW NE NW section 27-23-4, in the Masham area of northern Pawnee County, swabbed 45 bbls. of oil in 24 hours and was completed at 3,258 feet, total depth. Skinner sand, the producing horizon, was topped at 3,235 feet.

Stanley Brewer was moving in tools for No. 11 Cotton, NE SE SW section 6-20-8, the only new Pawnee County test.

Kay County

Dave Morgan No. 7 Shurtz, SE SE NW section 31-29-1, in the Dilworth area of Kay County, was abandoned at 2,622 feet, total depth, in Layton sand. It was an old well deepened from 1,960 feet.

Noble County

Continental Oil Co. No. 1 Pruitt, NW SE SW section 19-20-1w, wildcat southwest of Perry in Noble County, had a showing of oil and water in first Wilcox sand, topped at 5,046 feet, and water increased in second Wilcox sand at 5,122-42 feet. It was plugged back to 5,115 feet, tested, shot and acidized. It produced an estimated 4 bbls. of oil and 30 bbls. of water and was abandoned.

Logan County

Carter Oil Co. and Gulf Oil Corp. completed one of the largest Oklahoma producers of the week at No. 2 Tom Walker, SW NE NE section 33-17-4w, in the Crescent field of Logan County. It flowed 956 bbls. of oil in 12 hours, and made 24-hour potential of 5,039 bbls. of oil, with 5,000,000 feet of gas. First Wilcox sand was topped at 6,040 feet; second Wilcox, 6,173 feet; total depth, 6,242 feet.

In the Lucien area, Twin State Oil Co. No. 2 Pfeiffer, C N half N half SW section 33-20-2w, topped Dolomite at 4,860 feet; first Wilcox sand, 4,906 feet; second sand, 5,005 feet,

and was completed at 5,099 feet, total depth. After a shot it flowed 1,387 bbls. in 12 hours and made potential of 2,607 bbls.

No new work was reported in Logan County.

Shell Petroleum Corp. and others No. 4 Moelling 26-C, SW NE SE section 17-20-2w, was drilling below 5,180 feet and flowing at the rate of 20 bbls. of oil an hour, with gas estimated at 12,000,000 feet. First Wilcox sand was topped at 5,130 feet. It had oil showing at 5,160 feet and increasing at 5,165 feet.

Okfuskee County

In the Okfuskee County extension of the Olympic pool, Manahan & Grisso completed No. 6 Dalton, NE SE SE section 36-10-8, at 1,753 feet, total depth. It flowed 170 bbls. in 24 hours. Top of Senora sand was 1,733 feet. C. H. Cameron No. 2 Hennechucke, NE NW NE section 17-12-7, in the Paden area, had a hole full of water and was dry and abandoned at 2,898 feet, total depth.

The only new work starting in Okfuskee County was the Manahan & Grisso No. 8 Dalton, NE NE SE section 36-10-8, rigging up rotary.

Pottawatomie County

No new wells were completed in Pottawatomie County. Blackwell Oil & Gas Co. No. 2 Waylahpease, SW NW SW section 7-9-5, an old well, was deepened from 4,214 feet to 4,420 feet, total depth, had a hole full of water and was abandoned. Top of Wilcox sand was 4,404 feet.

One new Pottawatomie test was started. J. W. Fitzpatrick No. 1 Breidenthal, NE NE NW NE section 23-11-6, was a cellar.

Lincoln County

Sinclair Prairie Oil Co. No. 2 Hoyt, NE NW NE section 5-14-3, in the Hoyt area of Lincoln County, topped Dense at 5,026 feet; Dolomite, 5,054 feet; Wilcox sand, 5,076 feet, and was completed at 5,088 feet, total depth. It flowed 465 bbls. of oil in nine hours.

The only new work in Lincoln County was at Stanolind Oil & Gas Co. and Amerada Petroleum Corp. No. 9 Rice, NW NE NE section 11-14-3, a rig.

Le Flore County

Le Flore Gas Co. No. 1 Belt, SW SW SE section 25-9-26, was the location for a new test north of the Poteau area in Le Flore County.

Pittsburg County

Oklahoma District Oil Co. No. 1 Beeler, NE NE SW section 7-7-14, south of Ulan in northern Pittsburg County, had the rig on ground. It is on surface and seismograph geology.

Creek County

Four wells in Creek County were completed. Sinclair Prairie Oil Co. No. 1 Gilcrease, SW SW SE section 33-17-12, was bottomed at 2,263 feet and produced 35 bbls. of oil in 24 hours. Sooner Oil & Gas Co. No. 1-A Ispocogee, SW cor. section 17-18-12, was abandoned at 2,350 feet, total depth. Jackson No. 1 Smith, NW cor. section 1-17-8, had Jones sand at 1,550-82 feet; total depth, 1,584 feet, and flowed 100 bbls. of oil in 24 hours. Commercial Drilling Co. No. 6 Saab, NE NW SW section 17-19-9, pumped 18 bbls. of oil in 24 hours. It had Red Fork sand at 2,325-40 feet; total depth, 2,344 feet.

New work in Creek County: Jackson No. 1 Boling, NE NW NW section 25-7-7, rig; Sinclair Prairie Oil Co. No. 20 Jones, NE SW NW section 3-17-7, an old well, rigging up to deepen; same operator's No. 1 Kernal, NW NW SE section 30-14-8, an old well, rigging up to deepen.

Okmulgee County

Brecht No. 1-A Colbert, SW NE NW section 15-14-14, in Okmulgee County; pumped 5 bbls. of oil in 24 hours after a shot in sand at 1,250-67 feet, and was completed. Moore No. 1 Tiger, NE SW SW section 2-12-12, was abandoned at 3,334 feet, total depth. Swanson, Keeney & Lunnon No. 1 Adams, NW SW NE section 30-15-12, topped Bartlesville sand at 1,634 feet; total depth, 1,700 feet; plugged back to 1,114 feet and was abandoned.

New work in Okmulgee County follows: Gore No. 1-B Anderson, SW NE NE section 36-16-14, location; W. B. Pine No. 1 Bruner, SE NE NE section 4-15-14, drilling at 795 feet; Burns No. 1-B Ashley, NW NE NE section 30-14-14, drilling below 100 feet; Hazlett No. 6 Dunbar, C E half SW SW section 30-14-13, location.

Love County

Sinclair Prairie Oil Co. No. 1 Stockton, SE SE SW section 26-6s-2w, wildcat in the Oswalt area of Love County, had 470 feet of drill pipe stuck on bottom and twisted off, and the crew was fishing. Total depth is 8,785 feet, making it the deepest drilling well in the state. Amerada Petroleum Corp. and Stanolind Oil & Gas Co. No. 1-A Westheimer, SW SE SW section 27-6s-2e, a wildcat northeast of Marietta, plugged back to 2,978 feet, ripped pipe and was to acidize.

Cleveland County

Sinclair Prairie Oil Co. and others No. 1 Franklin, SE NW SE section 21-10-2w, discovery well in the Moore area of Cleveland County, failed to complete test when it cut connections after flowing two hours, and was forced to shut in. It flowed 876 bbls. the first hour and 955 bbls. the second hour. Gas gauged 199,800,000 feet daily to make it the state's biggest gas producer. The well was completed last June as a big gasser and distillate well, but was never gauged. For several months it averaged 25,000,000 feet of gas and 1,850 bbls. of "gasoline" through choke. It recently was deepened to 7,318 feet. The corporation commission has ruled that wells in the field must take potential and produce through 7-inch casing on percentage basis. Accordingly, Sinclair Prairie Oil Co. and others No. 1 Marvel, NW SW NE section 21-10-2w, and same operators' No. 1 Rice, NE cor. section 28-10-2w, the second and third completions, were preparing to set casing.

Gulf Coast Fields

(Continued from Page 62)

fee, located to the south in section 18, tested salt water on a drill stem test from 7,675-87 feet and is waiting for cement to set after plugging back to 7,443 feet.

Superior Oil Producing Co. No. 3 George Bradley, located in the Bayou Mallet field, Acadia Parish, cored oil sand to a depth of 6,395 feet and 7-inch casing has been cemented at 6,388 feet. This is the discovery horizon of the field which will probably result in the well being completed as a wet gasser. It is 1,380 feet south and 348 feet west of No. 1 Bradley in section 52-7s-1e.

General Crude Oil Co. No. 1 Vincent, west of production in the Tepetate field, Acadia Parish, ran an electrical coring test to a depth of 9,181 feet and is coring ahead. There were no sands indicated on the coring test and the hole will probably be abandoned without testing. Only one completion was reported for the field. Continental Oil Co. No. 1 Hugh Breckenridge was completed through perforated casing at a depth of 8,306 feet and flowed 250 bbls. in 19 hours through a quarter-inch choke, with tubing pressure 1,200 pounds and casing pressure 1,325 pounds. Location is in section 29-7s-2w.

In Vermillion Parish, Continental Oil Co. No. 1 Hebert is drilling in shale and lime below 8,333 feet. An electrical coring test was made to 8,000 feet and showed sand from 7,668-82 feet with 25 ohms resistivity and 95 millivolts porosity. From 7,884-8,000 feet the log showed 17 ohms resistivity in the top 10 feet and the remainder showed salt water sands. Location is in section 20-12s-3e.

Along the "Conroe trend" including Calcasieu, Beauregard and Veron Parishes, Lee Harmes and others of Houston have leased approximately 159,649 acres from the Lutcher-Moore Lumber Co. and the area is to be worked with geophysical instruments. It is reported that the lease calls for one well to be drilled on the property.

Central West Fields

(Continued from Page 72)

township, and Robinson & Co. are drilling No. 4 Phillip Doerr farm, section 16, Lake Township.

In Coshocton County, M. C. Wallz No. 11 on the Jess Lawrence property, section 4, produced 3 bbls. initially at 810 feet. Preston Oil Co. is drilling No. 4 on the C. D. Mossholder farm, Lot 4, Newcastle Township, and drilling No. 3 on the A. and J. Beatty, Lot 3, same county.

In Huron County, J. E. Ringler is drilling No. 1 on the F. and A. Verburg farm, Lot 40, Fitchville Township.

In Logan County, Jack Center Oil & Gas Co. is drilling No. 1 on the Vera Haradon farm, section 6, Stokes Township.

In Starke County, East Ohio Gas Co. No. 1 on the N. and B. Keek farm, section 9, Jackson Township, is a gas well at a depth of 4,326 feet. Same company's No. 3 Albright is drilling.

In Cuyahoga County, in Dover Township, Ohio Fuel Gas Co. is drilling No. 1 on the John Stark farm, section 4, and same company has a rig in for No. 1 on the Norris Crumler farm, Lot 42, same county.

INDIANA FIELD

In Daviess County, Indiana, Oliphant & Sage No. 1 on the Paul Fuhrman farm, SW SE section 34, Barr Township, was a gas well at 597 feet.

KENTUCKY FIELD

In McLean County, Hupp & Duff No. 1 on the Candy Graham farm, produced an initial of 85 bbls., and the same company's No. 3 on the Tanner tract, produced 150 bbls. initially, while J. C. Miller No. 1 on the Crow tract, produced 75 bbls.

In Ohio County, Teller & Co. No. 2 on the G. H. Medcalf farm, produced 20 bbls., in the Maddox pool. Ekis & Co. No. 2 on the Richards heirs farm, was a dry hole.

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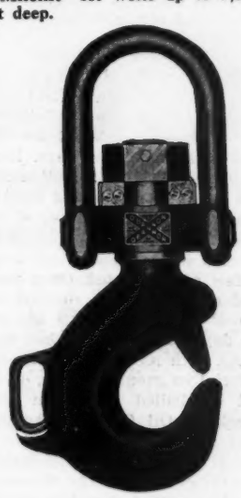

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California Field Report

By
L. P. STOCKMAN

SHALLOW GAS FIELD OPENED IN MID-CALIFORNIA COUNTY

LOS ANGELES, Calif., June 1.—The Pure Oil Co. appears to have proved up a shallow gas zone in the Chowchilla area of Madera County as its No. 3, in section 17-10-14, showed a potentiality of 15,000,000 feet on a formation test at 2,800 feet. The Chowchilla gas field is located close to the Madera-Merced County line. The company's initial test proved up a deep gas zone at 8,402 feet, but it is not now commercially productive. No. 2 Chowchilla, located in section 8-10-14, was finished in the shallow zone at 2,606 feet. The Standard Oil Co. has cemented 9-inch casing in its wildcat on McDonald Island in San Joaquin County and a formation test indicated the probability that the company has discovered a gas field. The formation test indicated the well might be good for about 20,000,000 feet of dry gas per day, but deeper drilling may be productive of better results.

Round Mountain

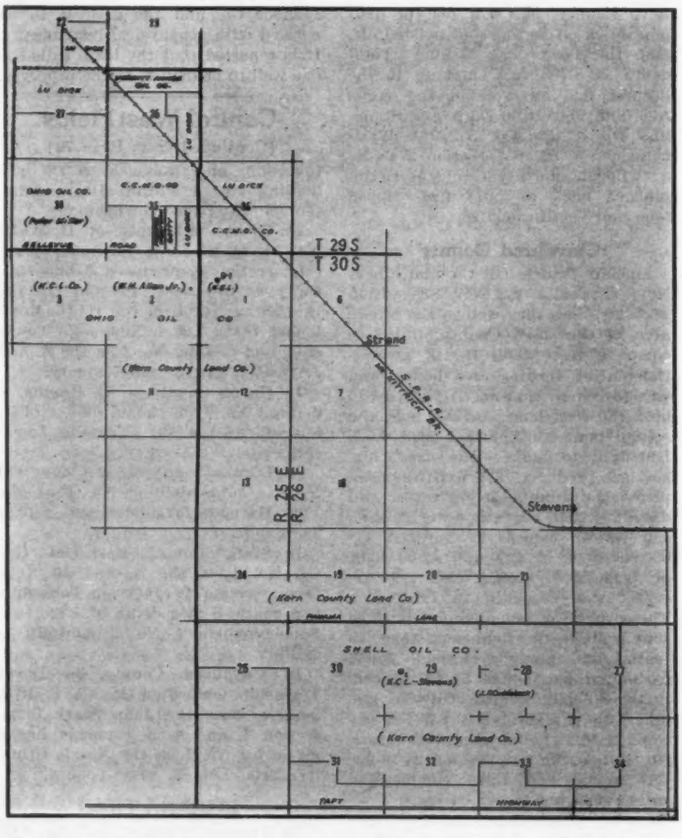
Three new wells were completed in the Round Mountain field of Kern County and another, Shell Oil Co. No. 6 Caldwell, should be finished within the next few days. Honolulu Oil Corp. No. 1-C in section 20-28-29 was brought in pumping 460 bbls. of clean 18.5 gravity oil per day from 1,940 feet, after the hole had been finished with a 6-inch liner including 81 feet of perforated. On a potential production test this well produced for several hours at the rate of 920 bbls. per day. The Honolulu has spudded in No. 1 in section 20-28-29 and has material on ground for No. 45, which will be drilled in section 18-28-29. The Shell Oil Co. had two completions in the Round Mountain field, Nos. 11 and 12 on the Caldwell lease in section 7-28-29. The former, bottomed at 1,630 feet and finished with a 6⅝-inch liner including 60 feet of perforated, was brought in pumping 651 bbls. of clean 18.1 gravity oil per day, while the latter, completed at 1,750 feet and finished with a 6⅝-inch liner carrying 62 feet of perforated, was brought in pumping 681 bbls. of clean 18.2 gravity oil per day.

In the Kern Front section of the Kern River field, the Republic Petroleum Co. completed No. 10 Strassburger and should have No. 2 Fleishacker and No. 1 Crosby ready for production tests within the next week. No. 10 Strassburger, is pumping at the rate of 260 bbls. per day following completion at 1,928 feet. Texas Co.'s No. 12 Lehman, in section 23-28-27, was brought in on the beam pumping 133 bbls. of relatively clean 15.4 gravity oil per day from 2,040 feet after the hole had been finished with an 8⅝-inch water string landed at 1,747 feet and a 6⅝-inch liner carrying 303 feet of perforated. The Union Oil Co. No. 8 Del Rey, in section 11-28-27, made an initial production of 80 bbls. per day from 1,692 feet. The oil was cut 20 per cent. The next completions out on the west front of the Kern River field should be the Standard Oil Co. No. 26 in section 15-28-27 and the Associated Oil Co. No. 51 Young in section 23-28-27. These two wells should be followed into production by the Vega Oil Co. No. 2 in section 11-28-27.

Santa Maria

Four new wells are being started in the new field discovered by the Union Oil Co. in the Santa Maria district of Santa Barbara County several months ago. Three of the quartet of new wells will be drilled by Union Oil Co. and the company will probably lay a lateral eastward to connect with its Lompoc pipe line. The wells will be located in section 24-10-34 on the Battles, Mahoney and Bettiga leases. The R. R. Bush Oil Co. and the Hancock Oil Co. will drill a joint test in section 13-10-34, with the former in charge of actual development. The pay is found in this district at approximately 2,500 feet.

Honolulu Oil Corp. brought its No. 9 on tideland permit No. 90 in the Elwood field of Santa Barbara County under control after a battle of three days, during which the well produced as high as 30,000,000 feet of gas per day. It was drilled to 7,014 feet and plugged back to 6,705 feet and the 6⅝-inch casing perforated at 6,440-75 feet, 6,575-85 feet and at 6,650-65 feet and then a little below 5,300 feet, from which depth the well blew in unexpectedly, although the third Sespe zone is known to carry considerable gas under high pressure. Barnsdall and Rio Grande, which are jointly developing several leases and tideland permits in the Elwood field, have plugged back No 12 Luton Bell from 8,506 feet to 6,856 feet and have perforated the casing with eight holes between 6,677 feet and 6,686 feet preparatory to making a production test. The Shell is putting the finishing touches on another potential producer in the Capitan field of Santa Barbara County and this well, No. 10 Covarrubias, should be tanking oil within the next day or so.



Shell Oil Co. No. 1 Stevens in section 29-30-26 and Ohio Oil Co. No. 1 K.C.L. in section 1-30-25 are showing promising indications and may open up new field in Kern County

Montebello

Universal Consolidated Oil Co. in the eastern extension of the Montebello field completed No. 1 Pasadena, flowing 1,860 bbls. of clean 37.9 gravity oil and 1,100,000 feet of gas per day from 5,572 feet. It extends the field approximately 1,000 feet. The 55-acre lease upon which the well was completed is owned by the city of Pasadena and is being developed on a one-eighth royalty basis. The natural gas from No. 1 Pasadena is well saturated and will yield approximately 3 gallons of natural gasoline to each 1,000 feet of gas processed. The crude oil produced is of a superior quality and is being sold at $1.40 per barrel, which is substantially in excess of standardized quotations for oil of similar quality.

The Richfield Oil Co. conducted a formation test of its No. 1 Ciocca a few days ago and the results indicated a probable production of 1,500 bbls. per day when the well is completed. The Richfield made this formation test from 6,071 feet and will set the water string within the next day or so. Completion of No. 1 Ciocca will extend the productive limits of the Montebello field approximately 1,000 feet and stimulate additional drilling.

Torrance-Redondo

One new well was completed in the western or Redondo end of the Torrance field. No. 1 Redondo, drilled by W. C. Roach, J. B. Koepfli and Gus Pongratz, was brought in pumping 180 bbls. of 17.8 gravity oil per day from 3,622 feet after the hole had been finished with an 8⅝-inch water string landed and cemented at 3,144 feet and a 6⅝-inch liner carrying 478 feet of perforated. Wells scheduled for immediate production tests in the Redondo-Hermosa section of the Torrance field now undergoing aggressive development include the Dumas-Brown Oil Co. No. 1, Redondo Oil Corp. No. 1 Security, Tu-Jax Oil Co. No. 1 and Walken Oil Co. No. 1. The Chanslor Canfield Midway Oil Co. is expected to make a production test on No. 23 Del Amo within the next few days. Top of the conglomerate carrying oil was encountered at 4,777 feet, while the top of the Schist was logged at 4,837 feet and drilling operations concluded in the basement complex at 4,887 feet.

The Shell Oil Co. completed an exceptionally good well in the Dominguez field of Los Angeles Basin during the early part of the week when No. 83 Reyes was brought in flowing 929 bbls. of clean 30.6 gravity oil and 1,000,000 feet of gas per day. This new well was bottomed at 7,256

TANKER SHIPMENTS FROM LOS ANGELES TO DOMESTIC AND FOREIGN PORTS

	May 17		May 10			
Intercoastal-domestic:	Total this week	Daily average	Total last week	Daily average	This year to date	Same time last year
Diesel and gas oil	.....	.....	.....	.....	151,541	527,098
Gasoline	124,496	17,785	189,377	27,054	2,607,284	2,894,713
Kerosene	.....	.....	.....	.....	505,419	592,040
Foreign exports:						
Crude oil	363,069	51,867	63,545	9,078	3,802,223	4,354,402
Fuel oil	408,328	58,332	194,078	27,725	4,053,744	4,658,260
Diesel and gas oil	249,551	35,507	268,376	38,339	2,234,078	1,713,964
Gasoline	245,144	35,021	159,671	22,810	2,461,517	1,840,652
Kerosene	6,397	914	.....	.....	336,990	509,986
Other unfinished oil ..	3,519	503	.....	.....	16,894	56,161
Coastwise-domestic:						
Crude oil	247,883	35,412	184,102	26,300	2,810,814	2,223,941
Fuel oil	261,773	37,396	83,869	11,981	3,441,943	3,383,802
Diesel and gas oil	2,184	312	959	137	510,844	380,617
Gasoline	309,856	44,265	211,524	30,218	5,271,428	3,432,131
Kerosene	2,551	364	754	108	88,684	47,048

TANKER SHIPMENTS FROM SAN FRANCISCO TO DOMESTIC AND FOREIGN PORTS

Intercoastal-domestic:						
Diesel and gas oil	.....	.....	.....	.....	.....	157,258
Gasoline	.....	.....	.....	.....	71,960	.....
Kerosene	.....	.....	.....	.....	.....	149,715
Asphalt	.....	.....	.....	.....	60,950	142,497
Lubricants	.....	.....	.....	.....	18,129	19,550
Foreign exports:						
Crude oil	.....	.....	84,154	12,022	1,115,528	1,103,285
Fuel oil	106,091	15,156	18,211	2,602	1,322,596	693,760
Diesel and gas oil	34,709	4,958	.....	.....	337,640	459,774
Gasoline	94,528	13,504	98,235	14,034	1,311,982	1,131,043
Kerosene	9,017	1,288	3,261	466	255,698	278,692
Lubricants	26,008	3,715	3,150	450	129,925	86,976
Coastwise-domestic:						
Fuel oil	39,711	5,673	212,402	30,343	2,963,123	2,742,977
Diesel and gas oil	.....	.....	36,127	5,161	231,077	98,883
Gasoline	70,160	10,023	307,266	43,895	1,999,852	1,661,544
Kerosene	.....	.....	3,160	451	58,932	18,109

feet and finished with an 8⅝-inch water string landed and cemented at 6,817 feet and a 5¾-inch liner carrying perforations at 6,800-6,952 feet and at 6,981-7,250 feet. The Union is working on three potential producers in this field and all of them should be ready for a production test within the next 30 days. The Associated Oil Co. has picked up the top of the pay in No. 18 Hellman in the Seal Beach field and the well should therefore be ready for a production test within another 30 days. Continental Oil Co. is getting ready to spud in No. 39 Bixby. Operators in the Santa Fe Springs field have started a rather general reconditioning campaign with the result that 10 strings of tools are in operation with prospects that several more new wells or redrilling jobs will be started soon.

Kettleman Hills

The Standard Oil Co. completed three wells in the Kettleman North Dome field and is preparing to put another potential producer on a production test. No. 6-27-J, in section 27-21-17 was brought in doing 1,435 bbls. of clean 38.1 gravity oil and 3,700,000 feet of gas from 8,150 feet. Kick-off valves were placed in this well at 500-foot intervals between 3,500 feet and 7,000 feet. No. 27-19-J, in section 19-21-17, was brought in doing 392 bbls. of clean 36.5 gravity oil per day following completion at 8,840 feet. It was finished with a 5¾-inch liner carrying 265 feet of perforated and has kick-off valves every 500 feet from 3,000 feet to 5,500 feet. No. 34-35-J, in section 35-21-17, which was bottomed at 8,500 feet but plugged back to 8,322 feet, was brought in flowing 699 bbls. of very clean 38.1 gravity oil and 789,000 feet of gas per day.

In the Edison field of Kern County, General Petroleum completed No. 1 Magoffin in section 21-30-29, but this new well was only good for 42 bbls. of 17.2 gravity oil per day from 3,200 feet after the hole had been finished with a 6⅝-inch liner including perforations at 3,058-71 feet and at 3,139-3,200 feet. The Midway-Sunset field of Kern County, the Standard Oil Co. completed No. 4-5-K in section 5-11-23, pumping 201 bbls. of 23.9 gravity oil per day from 2,715 feet. No. 1 Dorsey-Flack of the Shell in section 7-11-23, pumped 288 bbls. of relatively clean 21.7 gravity oil per day from 2,794 feet after the hole had been completed with a 4¾-inch liner carrying 110 feet of perforated. The Union Oil Co. has started a 3,000-foot test on the Ford lease along the Premier fault.

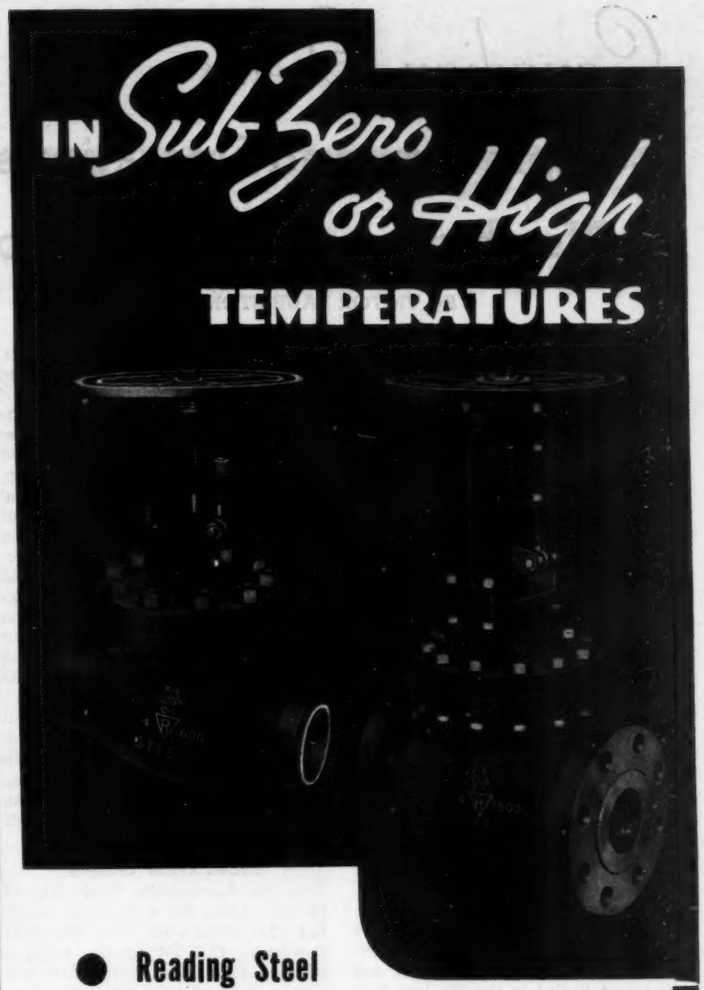
Inglewood

In the Inglewood field, Shell Oil Co. is starting two new wells on the Rindge lease and the Standard is starting one new well on the Los Angeles Investment lease and another on the Cone lease. The Shell completed No. 19 Rindge in the past week, flowing 1,125 bbls. of exceptionally clean 35.2 gravity oil and 900,000 feet of natural gas per day. No. 19 Rindge, which has been pinched back to 195 bbls. per day, was bottomed at 3,915 feet and finished with a 6⅝-inch liner carrying perforations at 3,314-3,474 feet, 3,516-3,752 feet and at 3,792-3,912 feet. The Shell has already spudded in No. 20 Rindge and has rig material on ground for Nos. 21 and 22.

At least one potential producer should be completed in the North Belridge field of Kern County within the next 30 days and there is a good chance that another well may be ready for a test along about the same time. The Continental Oil Co. has picked up the Wagonwheel zone in No. 7 Result and an early test is anticipated. The Union has resumed drilling operations on No. 7 Gibson which was suspended some time ago at 9,492 feet.

STOCKS HELD IN PACIFIC COAST TERRITORY BY CALIFORNIA OIL COMPANIES

	Apr. 30, 1936	Mar. 31, 1936	Apr. changes	Apr. 30, 1935
Non-gasoline-bearing crude, residuum, gas and diesel oils	71,065,525	71,074,147	— 8,622	63,943,648
Gasoline-bearing crude	39,470,317	39,683,463	—212,646	35,388,802
Unblended natural gasoline	1,910,543	1,882,921	+ 27,622	2,911,327
Gasoline (not including distributing and service stations	12,376,015	12,564,458	—188,443	10,188,778
Naphtha distillates	*1,584,084	*1,577,324	— 43,240	*1,147,891
All other stocks	†9,493,275	†9,656,271	—162,996	†8,079,539
Total	135,350,259	136,438,584	—538,325	121,660,485
*Estimated amount of unfinished gasoline contained in item No. 5...	1,273,286	1,249,610	.....	937,990
†Coke included in item No. 6	338,464	430,579	.....	534,330



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Canadian Fields

Completions and Operations in Northwest and in Ontario

By VICTOR LAURISTON

CHATHAM, Ontario, May 30.—Announcement has been made that Imperial Oil, Ltd., will participate with Sunshine Oils, Ltd., of Vancouver, British Columbia, in the drilling of a second test on the Del Bonita structure in southern Alberta. Location of Sunshine Oils No. 1 in LSD 10, section 19-1-21w4, has been moved about 900 feet northeast of the original location, where cellar had already been dug. The change was made by J. S. Irwin, consulting geologist for the Sunshine company, and Dr. T. A. Link, head of the geological department of the Royalite Oil Co. It is understood Imperial Oil, Ltd., has taken a substantial block of stock in the Sunshine company.

Terminal Oil Co. No. 1, NE section 18-1-21w4, on the Del Bonita structure, standing about 80 feet in the Madison lime at 5,112 feet, will run a new string of casing and test production from the lime. It will probably be deepened.

Turner Valley

In section 28-18-2w5, South Turner Valley, British Dominion Oil & Development Corp. No. 4, LSD 6, has deepened 40 feet in the Madison lime to 6,370 feet without materially increasing its previous naphtha recovery of 100 bbls. a day. At this depth it is 532 feet in the Madison but will continue for a thorough test of the black lime horizon.

On the west side of the structure, Turner Valley Royalties No. 1, LSD 13, same section, is deepening after cementing casing 30 feet in the lime at 6,426 feet. It should get production within about 200 feet. Farther north, Sterling Pacific No. 3, LSD 13, section 33-18-2w5, another west side test, is below 793 feet.

Alberta Prospecting Permits

Extensive new activity in many parts of Alberta is indicated by the fact that from February 1 to May 15, prospecting permits covering 267,820 acres have been taken out under the new regulations. These regulations enable an operator on payment of an initial rental of 10 cents an acre to reserve a large area for preliminary prospecting for one year. A six months' permit may be obtained at 5 cents an acre and extensions may be secured on payment of 1 cent per acre per month. In the area north of Red Deer River the permit and its extensions may total 24 months; south of that line the maximum is 18 months. The permittee must be in actual operation of the area within 90 days. After preliminary exploration work or drilling the permittee is entitled to select and retain a certain acreage on payment of ordinary rentals.

Ontario Operations

In the Dawn field, Lambton County, Ontario, Union Gas Co. No. 80, SE quarter Lot 25, Concession 11, Dawn Township, has spudded, and is below 300 feet. In the east end of the field, Perdue Syndicate No. 1 is below 700 feet after casing to the top of the lime. Location is in Lot 25, Concession 7, Dawn Township, 1,183 feet west of the east line and 353 feet north of the south line of the lot. It is about 1,200 feet from the nearest Union Gas Co. producer. W. H. Stubble has the contract. Gubb & Russell No. 3, Lot 22, Concession 3, Dawn Township, has a settled production around 250,000 feet a day from the Salina between 1,655 and 1,660 feet, and is shut in, with the outfit waiting for a new location.

In Kent County, F. W. Burchell No. 1, E half Lot 151, Talbot Road, in the south end of Raleigh Township, is below 800 feet after running casing. George Willetts is drilling a shallow test for oil in the Bothwell field.

Brownsville Gasser

In the Brownsville field, Oxford County, Aloka Oil & Gas Co. No. 3, Lot 23, Concession 12, Dereham Township, finished in the Guelph-Niagara formation around 910 feet with a flow of 2,300,000 feet a day. It is the largest producer yet drilled in the field. Location was in the south end of the lot, and south of the two previous Aloka producers. The field now has four gassers strung closely along a north and south line, No. 3 being the farthest south, then Aloka Nos. 2 and 1, each good for 227,000 feet a day. Offsetting Aloka No. 1 to the north, in Lot 23, Concession 11, is Treleaven Syndicate No. 1 which finished in the same horizon with 780,000 feet a day.

No production has yet been secured off this north and south line but several tests are drilling. Archie Treleaven No. 2, west of No. 1 gasser, in Lot 23, Concession 11, 630 feet east of the west line and 315 feet north of the south line, is shut down at 420 feet. East of the producers, Smith No. 1, Lot 22, Concession 12, 300 feet north of the south line and east of the west line, is below 300 feet. Still farther east, Child No. 1, Lot 21, Concession 12, got only a small show at 935 feet and is deepening below 990 feet. It is being carried down to test the Clinton formation, where sweet gas was encountered in the Eden field several miles farther south.

In the Eden field, Olga Gas No. 3, Claude A. Wilson farm, Lot 24, Concession 8, Bayham Township, is below 1,200 feet.

J. E. Watson, Sinclair Prairie Oil Co. land man at Shawnee, Okla., has recovered from a recent operation at the Mayo Clinic in Rochester, Minn., and has returned to work. He visited a sister in Indiana while convalescing.

Summary of California Oil Field Operations, April, 1936

CRUDE PETROLEUM PRODUCTION

(Figures of production and stocks are in barrels of 42 gals.)

	Total Production	Daily average		
	April	Apr., 1936	Mar., 1936	Apr., 1935
Group No. 1:				
Belridge-North	250,217	8,341	8,050	6,052
Belridge-South	63,743	2,125	2,139	2,530
Coalinga	502,758	16,759	18,463	19,613
Edison	146,915	4,897	4,639	1,071
Elk Hills	291,840	9,728	8,563	7,762
Fruitvale	216,274	7,209	6,523	3,563
Kern River	417,655	13,922	13,496	11,352
Kettleman Middle Dome	14,542	484	498	....
Kettleman North Dome	2,339,886	77,996	76,888	52,923
Lost Hills	101,092	3,370	3,616	4,947
McKittrick	50,310	1,677	1,816	3,813
Midway-Sunset	1,671,760	55,725	53,012	54,084
Mountain View	796,704	26,557	27,561	9,342
Mount Poso	586,551	19,552	18,227	12,556
Round Mountain	291,476	9,716	9,163	5,391
Wheeler Ridge	10,686	356	366	436
Group No. 2:				
Capitan	42,353	1,412	1,403	1,322
Elwood	374,848	12,495	11,845	9,904
Rincon	60,457	2,015	1,689	1,083
San Miguelito	42,439	1,415	1,362	415
Santa Barbara	50,667	1,689	1,746	3,237
Santa Maria	121,888	4,062	3,870	2,263
Summerland	1,119	37	43	49
Ventura Avenue	1,015,818	33,861	33,494	14,619
Ventura-Newhall	133,002	4,433	4,253	3,924
Watsonville	1,800	60	60	60
Group No. 3:				
Brea-Olinda	239,841	7,995	7,512	10,008
Coyote-East	65,937	2,198	2,301	2,662
Coyote-West	244,157	8,138	8,119	9,757
Dominguez	794,473	26,482	26,844	20,156
*El Segundo	4,456	149	....	....
Huntington Beach	1,071,482	35,716	35,739	38,787
Inglewood	349,120	11,637	11,888	10,747
Lawndale	1,821	61	270	126
Long Beach	2,072,914	69,097	69,907	65,206
Los Angeles-Salt Lake	24,407	814	854	782
Montebello	226,882	7,563	7,918	5,676
Playa Del Rey	407,655	13,588	12,843	11,554
Potrero	10,162	339	297	408
Richfield	194,252	6,475	6,306	7,685
Rosecrans	61,642	2,055	2,227	2,852
Santa Fe Springs	1,293,138	43,105	42,983	36,920
Seal Beach	292,418	9,747	9,384	8,918
Torrance	199,168	6,639	6,695	6,931
Whittier	29,395	980	978	994
Total	17,180,120	572,671	565,839	472,471
March	17,541,014	566,839	....	....
Increase	360,894†	6,832	.....	.....

*Situated approximately 18 miles southwest of Los Angeles and 3 miles northwest of Lawndale field. Production since August, 1935, has heretofore been included with Lawndale. †Decrease.

OIL FIELD DEVELOPMENT

	New rigs up	Active drilling	Producers completed	Daily initial output	Active producing	Abandoned wells: Drillers	Abandoned wells: Producers
Group No. 1:							
Belridge-North	...	6	...	....	29	...	...
Belridge-South	...	...	...	....	186	...	...
Coalinga	3	3	...	....	911	...	19
Edison	6	7	5	340	71	...	...
Elk Hills	...	...	...	....	162	...	...
Fruitvale	5	5	4	730	93	...	...
Kern River	13	9	7	1,547	1,446	...	1
Kettleman Middle Dome	...	1	...	....	3	...	...
Kettleman North Dome	4	25	7	11,134	119	1	...
Lost Hills	...	1	...	....	265	...	...
McKittrick	...	4	1	196	123	...	1
Midway-Sunset	7	9	5	3,973	2,285	2	2
Mountain View	2	11	4	3,263	139	1	...
Mount Poso	1	8	1	570	197	...	1
Round Mountain	6	3	2	595	77	1	...
Wheeler Ridge	...	...	...	....	26	...	...
Group No. 2:							
Capitan	3	3	...	....	22	...	...
Elwood	...	1	1	580	65	...	...
Rincon	...	1	...	....	30	...	...
San Miguelito	1	1	...	....	6	...	...
Santa Barbara	...	1	...	....	60	...	1
Santa Maria	3	4	1	110	193	...	...
Summerland	...	...	...	....	19	...	...
Ventura Avenue	...	7	...	....	232	...	...
Ventura Newhall	6	13	1	50	541	1	...
Watsonville	...	...	...	....	7	...	...
Group No. 3:							
Brea-Olinda	...	...	...	....	345	...	...
Coyote-East	...	...	...	....	71	...	...
Coyote-West	...	1	1	475	57	...	...
Dominguez	1	5	1	385	109	...	...
El Segundo	...	1	...	....	1	...	...
Huntington Beach	1	1	2	65	508	1	1
Inglewood	...	1	1	866	210	...	...
Lawndale	...	...	...	....	6	...	...
Long Beach	1	5	...	....	1,240	6	7
Los Angeles-Salt Lake	...	...	...	....	123	...	1
Montebello	...	14	...	....	194	...	...
Newport	...	1	...	....	....	...	...
Playa Del Rey	2	2	2	450	202	...	2
Potrero	...	...	...	....	12	...	...
Richfield	2	2	...	....	241	1	...
Rosecrans	...	...	...	....	70	...	...
Santa Fe Springs	3	5	2	215	598	...	3
Seal Beach	...	2	1	960	111	...	...
Torrance	10	11	4	834	469	...	...
Whittier	...	...	...	....	162	...	...
Miscellaneous Drilling	8	39	...	....	....	10	...
Group No. 4—Gas Fields:							
Buena Vista Lake	1	...	1	Gas	....	...	...
Buttonwillow	...	...	...	....	1	...	...
Delano	...	...	...	....	....	...	...
Dudley Ridge	...	1	...	....	....	...	...
Goleta	...	...	...	....	....	...	...
Semi-Tropic	...	...	...	....	....	...	...
Tracy	1	1	1	Gas	4	...	...
April	90	215	55	27,338	12,041	24	39
March	84	232	63	32,726	12,214	27	2
Decrease	6*	17	8	5,388	173	3	37*
Average for year 1935	86	243	64	55,082	12,136	29	17
Average for year 1934	53	196	38	47,553	11,053	21	17
Average for year 1933	30	124	21	22,842	9,199	14	18

*Increase.

West and North Texas

By
L. E. BREDBERG

ECTOR COUNTY TEST OPENS POOL WITH 400-BBL. FLOW

FORT WORTH, Tex., June 1.—The deep test of Magnus Oil Co. on the Judkins & Spencer Ranch, in section 4, W. W. Russell original grantee, about 14¼ miles east of Eldorado, in Schleicher County, was believed to have logged the Ellenberger, member of the Ordovician at 5,903 feet and is now shut down at 5,920 feet to make a drill stem test after a showing of oil was reported between 5,905 and the total depth.

If this showing does not produce a commercial well, the test is to be carried down to 6,500 feet. This is the second test in the county to reach the Ellenberger, but the other was dry and abandoned

Ector Wildcat Results

William H. Dunning, Jr., and others No. 1 Cummins, wildcat in section 33, Block 45, 1n, T. & P. Survey, in the northwest corner of Ector County, at least 3 miles from the nearest producer, and 4½ miles northwest of the Goldsmith field discovery well, came in for a better well this week than expected. It flowed 406 bbls. by heads in a 24-hour period ending the morning of May 29, and is now shut in for storage. Steel line measurement of the hole showed it to be only 4,252 feet deep, or 23 feet above depth previously reported by the driller's log. The main pay section was logged around 4,234 feet. The Empire Gas & Fuel Co. will be forced to drill an immediate east offset and the Amerada Petroleum Corp. will have to drill a northeast offset, the owner of this new discovery holding leases on the tracts in the other directions from the well.

Lime Top Picked

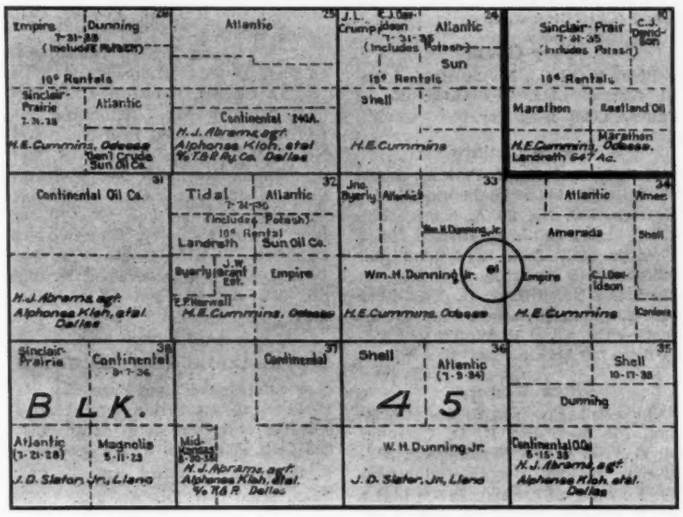
A Gaines County wildcat of Landreth Production Co. on the Kirk Ranch, in section 22, Block 21-A, in the southern part of the county, topped gray lime at 4,315 feet according to the operators, and the Oolitic lime at 4,287 feet according to one of the major companies. Using the former marker, these first correlation show a thinning of section as compared with a test drilled several miles to the south in Gaines County, and a dry hole to the southeast. The former was drilled by Lou Stogner and others and the latter by Gill of San Angelo, on the Crews Ranch. It is believed to rest on the west flank of a theoretical high. It is drilling ahead around 4,400 feet, or 1,129 feet below sea level and will be closely watched during the following drilling.

Winkler Wildcat Deep

Fred Hyer No. 1 Evans-Cowden, wildcat in section 8, Block 56-A, northeast corner of Winkler County, is now one of the deepest tests ever sunk in that county, drilling below 4,450 feet in hard lime with no showing of water. It has picked up several showings of oil in spots below 4,300 feet, which may be treated with acid in an effort to make a producer if commercial production is not picked up below its present depth.

Upton Failure

Cordova Union Oil Co. No. 1 fee, located in section 34, Block 1, G.C.& S.F. Survey, about 2 miles south and a little east of the extension area of the Sherk pool in Upton County, was given up this week at a total depth of 2,232 feet, as a dry hole. It previously appeared as a small producer when shot and acidized, but failed to show staying producing qualities.



Map showing location of a new wildcat discovery in northwestern Ector County, in the West Texas district
(Zingery Oil Map Co., Fort Worth, Tex.)

Jones County Wildcat

B. F. Robbins of Big Spring is to sink a wildcat test 3 miles northeast of Anson in Jones County, to be spudded during the week. Location is on the Dr. W. J. McCreight farm, near the center of a block of some 2,000 acres, falling in section 14, Orphan Asylum lands. John H. Healey of Albany owns a block to the northeast of the Robbins block and a test will probably be made of that block later.

Hudspeth Location

An extreme wildcat location has been staked in Hudspeth County by the Costelle Oil Corp. of New York, on the Costelle ranch, a 6,000-foot test to be sunk on the ranch and block comprising 18,000 acres in Blocks 69 and 70, Township 2, T.&P. R.R. Survey. It is 28 miles from the nearest test ever drilled in this county, put down by the California Co. on University lands, east of the new location.

Dr. Victor Ziegler, formerly head of the department of geology at the Colorado School of Mines, but now consulting geologist of San Antonio, geologized the block. The Pennsylvanian, Mississippian and Ordovician are to be tested by this deep hole whose location is on the northeastern part of the Diablo Plateau and on a long known structure. Location is in the SW cor. section 36, Block 70. Elevation is 4,075 feet.

Borden Test

John I. Moore of San Angelo, is contemplating the drilling of a test in the southwestern part of Borden County, in an area that has already received two dry holes, one going as deep as 3,805 feet. Location of the new test is to be in section 20, Block 33, Township 4n, T.&P. Survey. It is to be carried to 3,500 feet and spreads of acreage have been sold to several major companies interested in seeing another test drilled in this area.

North and Central Texas

A deep wildcat test is slated to be drilled only 2 miles north of Wichita Falls in Wichita County. Location is on the Fahbler farm, J. C. Pike Survey, Abstract 509, the test to go to 3,500 feet. J. W. Morton and associates are to drill the test.

Another deep test for the North Texas district is to be drilled by the Deep Oil Development Co. on the Munger farm, in Block 30, W.V.F.L. Subdivision, 1 mile north of Kemp City. It will go to 4,000 feet.

A three-quarter mile extension to the Chalk Hill production in Archer County, looks sure in Riner & Massie No. 1 Wilson, in section 118, A.T.N. C.L. Survey. It encountered the Canyon sand at 2,195 feet, set casing, but lost the casing seat and had to be recemented.

A 2,750-foot wildcat is to be drilled near the Cooke-Denton County line by J. H. Masterson on the C. E. Cates land, in the W. H. Watson Survey, Denton County. Rotary rig is now being moved to the location.

Bryson Area

Hammon & Meredith have found an entirely new pay horizon in the area southeast of Bryson where wells are producing below 3,000 feet, picking up a sand at 2,436-52 feet in No. 1 Rhodes in the Erwin Survey. The hole started filling, making the test look sure of making a producer, opening another pay horizon and extending the pool 2 miles to the southeast. The same operators have made location about 2 miles to the south for a wildcat on the A. B. Kuykendall farm in the Clendenon Survey, and rig is being moved in.

Cooke County Failure

The Amanda Wilson test of Anderson and Kerr, 3 miles east of Gainesville, and a west offset to the same operator's 790-bbl. discovery well on the Bruhlmeyer farm, proved a disappointment in drilling to 2,390 feet, where it shut down with a hole full of water. Sand in the discovery was logged from 2,009-16 feet. F. W. Merrick also missed the Bruhlmeyer pay in his No. 1 Lillian K. Bell, south of the discovery, and will probably abandon at 2,325 feet.

Callahan County Wildcat

The Canyon Oil & Gas Co. is preparing to spud in a wildcat test on the H. L. Breeding lands in the Wyatt Hickman Survey No. 5, 5 miles northwest of Cross Plains in southern Callahan County. Same is to be carried to 2,000 feet.

Panhandle District

Harry Stekoll, independent producer of Amarillo, has taken over the E. L. Smith wells and properties, comprising 800 acres and containing 21 wells with several hundred barrels daily production in Hutchinson County. Same is located in section 8, Block M-21, T.C. Survey, and section 6, Block B-4, D.&S.E. Survey. These properties formerly belonged to J. K. Hughes of Mexia. Some of the wells are to be abandoned and the remainder produced.

The Humble Oil & Refining Co. has taken over connections on 15 leases in the Panhandle, with a daily allowable of 1,758 bbls. to help out the crowded pipe line situation in that field.

PANHANDLE COMPLETIONS

Carson County

Empire Gas & Fuel Co. No. 1 G.

W. Deal, 2,869-3,095 feet, plugged back to 2,950 feet, 12,100,000 feet of gas.

Gray County

Joana Oil Corp. No. 1 Rendleman, 2,690-2,810 feet, 39,340,000 feet of gas. Magnolia Petroleum Co. No. 7 fee, No. 227, 2,892-2,930 feet, 45 bbls. in six hours pumping. Stanolind Oil & Gas Co. No. 1 Ruby Sackett, 3,280-3,336 feet, plugged back to 3,328 feet, 117 bbls. oil and 26 bbls. water pumping, shot. Texas Co. No. 4 O. N. Frazer, 3,285-3,310 feet, 400 bbls. pumping.

Hutchinson County

Stansylvania Oil Corp. No. 5 Stansberry, 2,865-2,898 feet, 306 bbls. pumping, shot. Texas Co. No. 7 Pond, 3,044-3,070 feet, 531 bbls., pumping, shot.

Moore County

Anderson and Kerr No. 1 Breyfogle, 2,980-3,597 feet, plugged back to 3,400 feet, 17,335,000 feet of gas, shot. Shamrock Oil & Gas Co. No. 1 Ryan-Jones, 2,835-3,495 feet, plugged back to 3,404 feet, 112,440,000 feet of gas.

Wheeler County

Smith Brothers No. 3-B Sitter, 2,490-2,570 feet, 418 bbls.

WEST TEXAS COMPLETIONS

Crane County

Finley, Keyes and others No. 1 Hughes, 2,250-2,258 feet, acidized, 722 bbls.

Ector County

Gulf Oil Corp. No. 9-A University, 3,500-3,700 feet, shot, 380 bbls.

Glasscock County

Frazier No. 1 E. Patterson, dry and abandoned 1,450 feet, elevation 2,619 feet.

Howard County

Sinclair Prairie Oil Co. No. 35 Dodge, 2,560-2,784 feet, shot, 340 bbls.; No. 38 Dodge, 2,430-2,785 feet, shot, 790 bbls.; No. 40 Dodge, 2,500-2,770 feet, shot, 421 bbls

Jones County

Ungren & Frazier No. 5 Dorsey, 1,995-2,016 feet, 389 bbls.

Pecos County

H. A. Baker No. 3 Sinclair-Douglas, 360-370 feet, 119 bbls.

Upton County

Gulf Oil Corp. No. 18 McElroy, 2,835-2,997 feet, shot, 139 bbls. Kirk & Whiteside No. 2 Lane, 2,210-2,315 feet, acidized, 139 bbls. Texas Pacific Coal & Oil Co. No. 22-A Lane, 2,034-2,103 feet, acidized, 655 bbls. Cardinal Oil Co. No. 1 Sherk, 2,120-2,195 feet, acidized, 485 bbls. in 16 hours. Humble Oil & Refining Co. No. 16 Ricker, 2,074-2,182 feet, acidized, 244 bbls. Cordova Union Oil Co. No. 1-34 fee, dry and abandoned 2,232 feet.

Ward County

Tide Water Oil Co. No. 3 Mason, 2,364-2,559 feet, shot, 280 bbls. Eppenauer Drilling Co. No. 4-A Combes, 2,348-2,485 feet, 279 bbls. California Co. No. 20 York, 2,446-2,519 feet, shot, 559 bbls.; No. 25 Gordon, 2,337-2,524 feet, shot, 493 bbls.; Wahlenmaier No. 5 Humble-Potts, 2,254-2,364 feet, shot, 510 bbls. Texas Pacific Coal & Oil Co. No. 14 James, 2,463-2,540 feet, shot, 1,523 bbls.

Winkler County

Emperor Oil Co. No. 2 Halley, 2,746-2,900 feet, shot, 404 bbls. Humble Oil & Refining Co. No. 6 Howe, 2,840-2,989 feet, shot, 804 bbls. Atlantic Oil Producing Co. and Wahlenmaier No. 1-A Walton, 3,020-3,070 feet, 1,827 bbls. in 11 hours.

NORTH TEXAS COMPLETIONS

Archer County

Brazelton No. 1 Andrews, 1,030 feet, dry. Consolidated Oil Co. No. 1 Lauster, 1,388 feet, dry. Continental Oil Co. No. 1 J. J. Perkins B, 1,301 feet, dry. N. D. Goldsmith No. 2 L. F. Wilson, 1,623 feet, dry. Hamilton Petroleum Co. No. 40 Abercrombie, 1,161-70 feet, 55 bbls.; No. 42 Abercrombie, 1,174-82 feet, 85 bbls. Huggins Oil Co. No. 2 Perkins, 1,100 feet, dry. Kimbell & Bohner No. 12 Carpenter, 1,075 feet, dry. Maro Co., Inc. No. 1 J. S. Bridwell, 952 feet, dry. Producers S. & T. Co. No. 2 Neimeyer, 1,420-27 feet, 36 bbls.

Rathke Oil Co. No. 1 B. C. Andrews, 1,021 feet, dry. Vital Oil Co. No. 2 Richardson, abandoned location. Wilson-Ligon No. 4 Powell, 1,256 feet, dry.

Baylor County

Consolidated Oil Co. No. 2 Portwood Z, 1,413 feet, dry.

Clay County

Block 9 Oil Co. No. 20 Reid, 1,768-91 feet, 6 bbls. Texas Co. No. 2 Saner, 1,620 feet, dry.

Cooke County

Keil & Keil No. 1 Perkins, 1,031-48 feet, 32 bbls. 14 hours. F. W. Merrick, Inc. No. 30 A. Knabe, 796-850 feet, 3 bbls. J. M. Russell No. 1 Bawley, 1,163 feet, dry. Seitz and others No. 8 Trew A, 1,235-63 feet, 170 bbls.; No. 9 Trew A, 1,186-1,217 feet, 256 bbls. 14 hours. United Production Co. No. 2 R. W. Trew, 1,167-80 feet, 150 bbls.

Jack County

Cable Oil Co. No. 2 Mrs. Christian, 754 feet, dry. R. D. Compton Oil Co. No. 3 C. C. Henderson, 317-52 feet, 14 bbls. Gwynn and others No. 1 Lowe, 2,972-84 feet, 300 bbls.; No. 2 Rankin, 2,992-3,011 feet, 1,200 bbls., 1,000,000 feet gas. Hedrick No. 1 Scott, 752 feet, dry. J. Korp No. 2 Bloodworth, 294-304 feet, 4 bbls.; No. 2 Horn, 315 feet, dry.; No. 3 Lewis, 310 feet, dry.

Wichita County

G. W. Cooper No. 40 Waggoner, 1,309-34 feet, 40 bbls. King Oil Co. No. 9 Waggoner H, 1,573-78 feet, 30 bbls.; Magnolia Petroleum Co. No. 12 Waggoner, 1,973-82 feet, 32 bbls. H. L. Rugeley No. 10 Waggoner, 1,961-66 feet, 80 bbls.

Montague County

O. V. Beck No. 19 Davenport, 1,724-29 feet, 50 bbls. Continental Oil Co. No. 3 Dodgin, 1,561-66 feet, 2,324 feet, 20 bbls. Perkins & Cullum No. 10 Howard, 1,400-47 feet, 15 bbls.

Wilbarger County

Deep Oil Development Co. No. 6 Waggoner, abandoned location. Fain-McGaha No. 11 Waggoner Y, 2,395-2,429 feet, 40 bbls. King Oil Co. No. 3 Waggoner N, 1,784 feet, dry. W. W. McDonald No. 6 Waggoner E, 1,870-82 feet, 25 bbls.

Young County

C. E. Beavers No. 4 Barnett & Gibbs, 700 feet, dry. L. T. Burns No. 1 Benson C, 952 feet, dry. Chambers & Humphreys No. 3 Benson, 892-902 feet, 67 bbls. Duncan & Holt No. 11 Benson, 915 feet, dry. Hamilton Petroleum Co. and others No. 12 Jeffery, 839-44 feet, 35 bbls. Jack Harris No. 1 J. B. Foster, abandoned location.

B. N. Honea No. 15 Honea, 844-56 feet, 25 bbls. Kimmell Lea & Co. No. 12 Cullers, 554-71 feet, 10 bbls. Tom Minnich No. 1 Hamilton, 904 feet, dry. Owenwood Pool No. 3 well No. 1 Mrs. M. L. Clark, 901 feet, dry. E. E. Reynolds No. 1 Foster, 810 feet, dry. Texas Co. No. 11 Finch B, 663-80 feet, 14 bbls.; No. 13 Jeffery B, 800 feet, dry. Underwood & Campbell No. 15 Campbell A, 858-78 feet, 60 bbls. Underwood Drilling Co. No. 19 Campbell C, 917 feet, dry.

North Louisiana-Arkansas

(Continued from Page 65)

choke from saturation topped at 5,982 feet and from total depth of 5,996 feet. Elevation is 217 feet.

Cass County, Texas

American Liberty Oil Co. No. 3 Maxie, 1,650 feet west and 330 feet north of the southeast corner of an 86-acre tract in the J. Collom Survey, gauged 26 bbls. per hour through quarter-inch tubing choke after hole was drilled to 6,044 feet with top of oil saturation logged at 6,017 feet.

Grant Parish, Louisiana

Acadian Production Corp. No. 7 Swope, NE cor. SE SE section 18-9-1e, was completed pumping 75 bbls. per day with 25 per cent salt water from total depth of 1,600 feet.

Morehouse Parish, Louisiana

John E. Farrell No. 18 State, NW cor. section 9-21-4e, was completed for 5,000,000 feet of gas with 890 pounds rock pressure in shallow chalk rock from 2,070-2,135 feet.

John E. Farrell No. 19 State, section 4-21-4e, gauged 2,500,000 feet per day with 940 pounds rock pressure at total depth of 2,135 feet. Five-inch casing is set at 2,070 feet.

United Gas Public Service Co. No. 37 Crossett, section 15-21-4e, produced 8,000,000 feet of gas per day with 935 pounds rock pressure when completed at 2,196 feet.

United Gas Public Service Co. No. 21 Tensas, section 10-21-4e, gauged 6,000,000 feet of gas per day with 905 pounds rock pressure from total depth of 2,206 feet.

Sabine Parish, Louisiana

Lee Whitehurst No. 2 Latham, in section 19-9-13, was completed for pumping production of 50 bbls. per day at total depth of 2,128 feet.

Webster Parish, Louisiana

J. P. Evans No. 1 T. Crichton Estate, 1,778 feet north and 192 feet west of the SE cor. section 35-18-9, gauged 26,700,000 feet of wet gas through 1¾-inch flow line on casing at total depth of 5,587 feet to open another Trinity producing structure in wildcat territory. The well was completed with perforated liner shutting off open hole from 5,363 feet, where 6⅝-inch casing was cemented to 5,587 feet, the present total depth.

Ouachita County, Arkansas

Edgar Johnson and others No. 1 J. M. Farris, C W half SE NW section 26-15-15, is an abandoned location with Johnson selling the lease to Lion Oil Refining Co.

Phillips Petroleum Co. abandoned location for No. 1 Murphy, C E half NE NE section 28-15-15.

Union County, Arkansas

J. E. Crosbie, Inc., No. 5 M. W. Sullivant, 393 feet north and 341 feet west from the SE cor. SE NW section 12-17-14, was completed pumping 330 bbls. of fluid per day, 10 per cent water from total depth of 3,169 feet. Seven-inch casing is cemented in the well at 3,165 feet.

Michigan Fields

(Continued from Page 66)

Township, in the Oceana field, is expected to be completed soon.

B. J. Skinner No. 1 Alger Sheldon, SE SE SW section 11-10n-3e, St. Charles Township, Saginaw County wildcat, was drilling in the Traverse.

Locations

Four new wildcat locations were included in the last list of 24 permits issued by the state conservation department.

They include: Clarence E. Bliss No. 1 F. A. Crawford, NE NE NE section 27-9n-8e, Forest Township, Genesee County; Charles M. Ross and John Vale No. 1 Samuel LeVliet and others, SW NW SE section 19 and No. 1 LaMonte Bragg and others, SE SW NW section 30, both in Dundee Township, Monroe County, and Robert E. Gallagher No. 1 R. L. Bentley, SW SW NW section 33-11n-7w, Douglass Township, Montcalm County.

State permits to date have exceeded 300 compared with 700 last year.

C. H. Hobbs, president of the Detroit Seamless Steel Tubes Co., Detroit, Mich., and Jon R. Long, manufacturer, Fort Worth, Tex.

East and East Central Texas

By
L. E. BREDBERG

TALCO TOWNLOT TEST SHOWS OIL; AN OFFSET COMPLETION

DALLAS, Tex., June 1.—Another well was brought in in the Talco pool, in Titus County, and a well in Talco Townsite is showing for a producer, proving more territory to production on the north of the fault plane and heralding a fast drilling program on town lots in Talco. Many locations have already been staked for tests on lots in the town, with a number of them preparing to get under way at once, this well starting off an active drilling campaign in the area. Independent operators hold the majority of the town lots, many of which will call for offset tests around the border of the town.

Magnolia Petroleum Co. No. 1 Carr, west offset to the Pleasant Oil Co.'s discovery well, located in the M. V. Delgado Survey, came in for a flowing well this week whereas the discovery was completed on the pump. The west offset producer was bottomed at 4,230 feet, still in sand, flowing 170 bbls. per day. This is about 22 feet deeper than the discovery, which is to be carried deeper to core more sand and probably make a flowing well. Liner is now being run in the Magnolia well preparatory to completing.

To the west of the Magnolia producer, and in the Talco Townsite, Ownby Drilling Co. No. 1 F. Jones, in Lot 6, Block 16, M. V. Delgado Survey, which has an elevation of 361 feet, cut the fault at 4,000 feet on the upthrow side, and is drilling below 4,165 feet according to the latest report from the field. The other producers in the field cut the fault much higher than this test, consequently it appears to be located near the north edge of the producing line along the fault plane. Production is expected to be developed along the plane in a narrow strip, but running east and west along the plane. Acreage to the west of the Talco discovery is believed to have better chances for production than to the east of it.

Two Oil Purchasers

The Independent Crude Oil Trading Co., which now has a gathering system in the field and a loading rack just southeast of Talco, is vying with the Humble Oil & Refining Co. in purchasing crude in the new pool. This company contracted to take the daily allowable production, 135 bbls. per day per well, from the new Magnolia well, paying the Humble's posted price of 60 cents per barrel, and shipping to the Eastern States Petroleum Co. at Houston by tankcar. Gathering and loading charges are 10 cents per barrel, which are the usual charges in the East Texas field. The freight rate to Houston is 37.38 cents per barrel, making the oil cost in the neighborhood of $1.08 per barrel at the Houston plants.

Three locations were staked in the Talco pool this week. Dean and Adkisson on Alma Cornelius lands in the Delgado Survey, have pits dug and derrick is going up. W. P. Luce and others are rigging up on the W. T. Sullivan lands in the I. P. Stern Survey, and a west offset location to the new Magnolia well has been staked and the operators are now rigging up preparatory to spudding.

Sanders and others (Nemo Oil Co.) are drilling in sand on their test on the Talco School District Lot in the northwest corner of the I. P. Stern Survey. It is down 4,200 feet, after topping the sand at 4,185 feet. It is a little over a quarter of a mile southwest of the discovery well. Elevation is 372 feet. The fault was cut in this test at 3,041 feet and the Georgetown lime topped at 3,444 feet.

At the Railroad Commission hearing on the Talco pool, at Austin on June 2, operators who hold acreage in the field, in small tracts, will gather at the hearing to protest against invoking any plan for using acreage as a basis of prorating the field, these men desiring the potential method of prorating the field instead of using an acreage unit. Mayor A. V. McElroy of Talco and Mayor Earl Lide of Mount Pleasant are to head a party of land owners and operators going to Austin to attend the hearing.

Another test preparing to be drilled in the Talco Townsite, is to be drilled by Allen M. Peairs of Dallas, and associates, in center of Lot 1, Block 30. The Genecov Production Co. is rigging up for townsite test on the J. S. Sullivan lands in the center of Lot 11, Block 12.

Cherokee Failure

The Humble Oil & Refining Co. has just given up an interesting test 4 miles southwest of Jacksonville in Cherokee County, at a total depth of 5,540 feet. Elevation is 428 feet.

Pure Oil Co. No. 1 Faulkner, located in the William Elliott Survey, east of Mt. Enterprise in southern Rusk County, considered as the No. 1 test in importance in the district at present, is below 6,100 feet and going ahead. The massive anhydrite section was topped at 5,945 feet.

Wildcatting

The Opelika area, about 10 miles east of Athens, in Henderson County, is again the scene of leasing and royalty buying activity, since the joint operators, Tide Water Oil Co. and Seaboard Oil Corp. have been acquiring more leases in their 6,000-acre block in that sector, the majority of which falls in the Wyche, Eakin, Hassell, Hatton, Lawson, Kitchell, Lewis and Hall and Robb Surveys. Eight hundred more acres have just been leased in the area to add to the block taken in 1934 and 1935. A test of the Woodbine and deeper sands is expected later.

About 6 miles north of Talco, and a half mile south of Rosalie, in Red River County, an old abandoned hole is expected to be carried deeper in quest of production in the Trinity sand. Some 7,000 acres of leases have been renewed in the area around the Spear and others No. 1 Gibson dry hole, drilled to below 3,000 feet, and which is to be carried deeper or possibly another test drilled nearby.

East Texas Field

There were 46 locations reported for the East Texas field this week with 55 tests completed, four of which proved dry holes and were abandoned. Seven were completed on the pump, two on gas lift and one was a "swabber." Two other wells showed a large amount of salt water, one making 45 per cent and the other 50 per cent water when completed. One of these was located on the west side of the field in Rusk County and the other on the northwest in Upshur County.

EAST TEXAS COMPLETIONS

Cherokee County

Humble Oil & Refining Co. No. 1 Goodson, dry and abandoned 5,540 feet, elevation 428 feet, 4 miles southwest of Jacksonville.

Van Zandt County

Pure Oil Co. No. 6 Enas, total depth 2,932 feet, 48 bbls. per day on pump (Van field).

EAST TEXAS FIELD

Gregg County

Empire Gas & Fuel Co. No. 14 Aiken, 3,529-3,545 feet, 22 bbls. in 15 minutes. McRae and others No. 1 Stone, dry and abandoned 3,710 feet. Selby Oil & Gas Co. No. 28-B Snavely, 3,556-3,570 feet, 49 bbls. in 30 minutes. Stanolind Oil & Gas Co. No. 7 Davis, 3,543-3,645 feet, 60 bbls. per hour; No. 7 McGrede, 3,543-3,601 feet, 17 bbls. in 15 minutes. Texas Co. No. 7 Phillips, dry and abandoned 3,941 feet. Tide Water Oil Co. No. 5-B Clemens, 3,598-3,625 feet, 12 bbls. in 10 minutes. Tide Water and Stanolind No. 44-B Flewellen, 3,689-3,726 feet, shot, 8 bbls. in one hour; No. 45-B Flewellen, 3,697-3,704 feet, 10 bbls. in 10 minutes; No. 12 Tuttle, 3,494-3,527 feet, 10 bbls. in 10 minutes.

Gulf Oil Corp. No. 28 Culver, 3,493-3,594 feet, 50 bbls. per hour. Hamilton & Ellis No. 11 Utzman, 3,478-3,500 feet, 15 bbls. per day on pump. Lone Pine Oil Co. No. 1 Clary, 3,517-3,526 feet, 60 bbls. per hour. Davenport No. 1 Hale, 3,501-3,532 feet, 235 bbls. in seven days on swab. Southland Drilling Co. No. 2 Choice, 3,685-3,689 feet, 15 bbls. in 20 minutes. South Port Petroleum Co. No. 5 I.& G.N.R.R. Co., 3,527-3,560 feet, 23 bbls. per hour on gas lift; No. 1, 3,526-3,542 feet, 27 bbls. per hour.

Rusk County

Bryan No. 1-A Jipson, 3,804-3,805 feet, 18 bbls. per day on pump, 45 per cent water. Humble Oil & Refining Co. No. 173 Crim, 3,690-3,704 feet, 87 bbls. per hour; No. 85-B Laird, 3,537-3,632 feet, 40 bbls. per hour; No. 87-B Laird, 3,542-3,600 feet, 30 bbls. per hour on gas lift; No. 13 Minor, 3,735-3,736 feet, 20 bbls. per hour. Magnolia Petroleum Co. No. 15 Bean, 3,505-3,550 feet, 20 bbls. in two hours on pump. Overton Refining Co. No. 2-A Jones, 3,669-3,676 feet, 90 bbls. in six hours.

Gant and others No. 12 Hale, 3,543-3,557 feet, 10 bbls. per hour on gas lift. Humble Oil & Refining Co. No. 14-B Kangerga, 3,642-3,660 feet, 20 bbls. in 25 minutes; No. 45 Plowman, 3,662-3,853 feet, 20 bbls. in 35 minutes. McCutchin No. 5 Pinkston, 3,568-3,701 feet, 5 bbls. per hour. McMurray No. 10 Blackwell, 3,674-3,679 feet, 10 bbls. in 10 minutes. Marr Drilling Co. No. 4 Lacy, 3,655-3,656 feet, 90 bbls. per hour. Petroleum Marketing Co. No. 1-D Graham, 3,677-3,678 feet, 21 bbls. in 30 minutes. Powell No. 1 Murphy, 3,569-3,605 feet, 30 bbls. per day on pump. Ray No. 11 Pinkston, 3,610-3,632 feet, 85 bbls. per hour. Sinclair Prairie Oil Co. No. 71 Kinney, 3,633-3,643 feet, 22 bbls. in 15 minutes. Wemack Oil Co. No. 5 Arnold, 3,650-3,675 feet, 60 bbls. in four hours on pump.

Smith County

Drury and Meeks No. 3-B Cole, 3,812-3,813 feet, 48 bbls. in 30 minutes. Gulf Oil Co. No. 13 Wiley, 3,734-3,740 feet, 60 bbls. per hour through three-quarters inch choke. Hunt Production Co. No. 23-A Fair, 3,624-3,631 feet, 25 bbls. in 12 minutes. McCutchin No. 7 Jarvis, 3,726-3,727 feet, 40 bbls. per hour. Sun Oil Co. No. 22-B Pace, 3,721-3,722 feet, 20 bbls. in 18 hours on pump.

Upshur County

Clark & Cowden No. 1 O'Byrne estate, 3,812-3,814 feet, 15 bbls. per hour. Danciger Oil & Refining Co. No. 3 Taylor, 3,735-3,741 feet, 20 bbls. in 37 minutes. Davis, receiver No. 3 Florence, 3,765-3,766 feet, 35 bbls. per hour. Dean & Atkisson No. 5 Victory, 3,582-3,584 feet, 35 bbls. in 30 minutes. Gulf Oil Corp. No. 15 Ray, dry and abandoned 3,600 feet. Johnson No. 2 fee, 3,720-3,724 feet, 15 bbls. in 20 minutes. Manziel No. 7 Mackey, 3,735-3,739 feet, 20 bbls. per hour. Perskie and others No. 2 Callahan, 3,694-3,730 feet, 20 bbls. per day, 50 per cent water.

Southland and others No. 23

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Continuance of Temporary Federal Tax On Gasoline Arousing Opposition

The movement for the repeal of the federal tax on gasoline and the reservation of that tax to the states is making rapid headway. Washington is hearing from the states lulled into acquiescence at the time of the original enactment by the plea that the federal tax was to be only a temporary measure during the emergency. The gasoline buying public also is becoming restive and demanding repeal.

The temporary character of the federal gasoline tax is well recognized by those instrumental in the original passage in 1932, being well illustrated by the fact it was adopted reluctantly and for only one year, whereas the revenue act of 1932 imposed all other levies for a two-year period. When the tax was enacted, neither time nor opportunity permitted careful consideration, and it was admittedly passed as a matter of expediency in a temporary move to balance the federal budget.

Dangerous Extreme

The power to levy taxes for the support of government has long been recognized as a fundamental, necessary exercise of sovereignty; without such power no government is able to function properly. However, the historical phrase—"The power to tax involves the power to destroy"—points out the dangerous extreme to which excessive exercise of this governmental prerogative may progress. Consideration of the present federal gasoline tax must, in all fairness, be weighed in the light of this factor.

Any general review of sales taxes, imposed by federal, state, and local governments, indicates such assessments were originally applied to so-called luxuries and then only for the purpose of satisfying revenue needs. The benefit theory was discarded and greater emphasis placed on the "ability-to-pay" doctrine. However, the recent economic emergency necessitated a departure from these standard doctrines and now, many modern essentials of life are included in revenue schedules—notably gasoline, which in 1935 paid a state and federal sales tax amounting to 39.04 per cent of the service station price, based on statistics from 50 representative cities.

For a number of years the various states have imposed an excise tax upon the sale of gasoline, the first being Oregon in 1919. Until 1932, this field of taxation was used only by the states and was not encroached upon by the federal government.

Senator Gore's Protest

However, unknown to the great majority of motorists and to many in the oil industry, the first proposal of a sales tax upon gasoline was that of a federal gasoline tax, the proposal being made by congress as early as 1913, when the first income tax law was enacted. In that year, the Ways and Means Committee of the house recommended a 2-cent per gallon federal tax. Later, a federal gasoline tax of 1 cent per gallon was agreed to by the Democratic members of the Senate Finance Committee over the protests of Senator T. P. Gore of Oklahoma, who was then, as he is now, a member of that committee.

Senator Gore lost the fight by only one vote in the committee and carried the fight to the Democratic caucus where he won by a majority of three votes. It was during this fight against the enactment of a federal gasoline tax that Senator Gore, also a member of the Senate Committee on Agriculture, evolved his now famous slogan: "Conserve both soil and oil—overtax neither oil nor soil."

By the action of the Democratic caucus, the federal gasoline tax was eliminated from the revenue act of that year, and such a law was not enacted until 1932, 19 years after the first proposal was made before congress.

In his annual message to congress on December 7, 1915, President Wilson also proposed a federal gasoline tax, but congress failed to enact such a law. The next time such a proposal was made was in the revenue bill passed by the house on September 20, 1918, in which was included a provision for a federal excise tax of 2 cents per gallon on gasoline, estimated to yield $40,000,000 per year. This provision was eliminated by the Senate Finance Committee.

The state of Oregon enacted the first gasoline tax law on February 25, 1919, imposing a tax of 1 cent per gallon to finance highway construction, improvement and maintenance. Within a few years all the states and the District of Columbia had adopted this type of tax for the express purpose of building and maintaining highways.

Growing Exaction

Since gasoline tax rates in the state were, at first, usually low and since the revenues were expended on the highways, there was very little opposition by the consumers. The motoring public was willing to pay for good highways. The gasoline tax, however, proved to be such a splendid source of revenue to the states, and was, in contrast with other forms of taxes, so easily collected, the result was rates were rapidly increased. The rates in the various states now range from 2 cents to 7 cents per gallon, with the average well above 4 cents. Total gasoline tax collections by the states in 1935 were approximately $625,000,000. Some idea of the present importance of the gasoline tax as a source of revenue for the states is gained from the fact it raises approximately one-third of all the money collected for state government purposes.

All of the states first taxed gasoline on the theory that it should be used exclusively for highway purposes. However, when revenues from other sources began to fall off, or when funds were needed for new purposes, the ease with which tax rates could be increased and the ease with which the tax was collected, caused legislatures in some states to divert gasoline tax funds to uses other than for highways.

Then, in 1932 the federal government, seeking to augment its revenue, invaded the gasoline tax field by imposing a "temporary" tax of 1 cent per gallon on gasoline sold by the producer or importer thereof. Congress recognized the injustice of this duplicate tax, but condoned it on the grounds of extreme emergency and expressed the intention it was a temporary levy.

The House Ways and Means Committee, in the report of its subcommittee on double taxation, submitted December 28, 1932, said:

"When the gasoline tax was first discussed in the house of representatives of the United States it was felt by many that this field of taxation was fully occupied by the states and should be left to them. The house did not include this tax in the revenue bill as sent to the senate. The senate, however, in the light of later figures as to the deficit and as to the probable tax yield, was obliged to amend the bill by including a tax upon gasoline."

Double Taxation

The same report on double taxation stated: "The federal (gasoline) tax is a temporary measure."

In 1933, congress repealed the provision of the 1932 revenue act, which set the expiration date for the federal gasoline tax as June 30, 1933, extending the expiration date to June 30, 1934. However, a report of the Senate Finance Committee dated May 10, 1933, stated: "Your committee is of the opinion that the gasoline tax should be reserved for the states after June 30, 1934."

When this subject came up for discussion before the Ways and Means Committee of the house at the 1933 session of congress, Chairman Doughton said:

"This was an emergency tax. I am sure congress was reluctant to impose a tax on gasoline, but in order to balance the budget congress felt that it was necessary temporarily to impose a tax of 1 cent a gallon on gasoline.

"Over the objection of the house it was passed in the senate, and we concurred in it because they said the whole structure of the government would perish if the budget was not balanced, and we too were anxious to balance it, and consequently in the rush to close the session of congress and to balance the budget we imposed the gasoline tax." (Hearings, p. 824, December 20, 1933.)

Later in the same session, the National Industrial Recovery Act extended the expiration date to June 30, 1935, and increased the rate of tax. While the NRA was being considered, various proposals were made to increase the 1-cent federal gasoline tax to 2 cents and 1¾ cents per gallon. As the bill was finally passed it provided for an increase of one-half cent, making the total federal gasoline tax 1½ cents.

However, congress again recognized the temporary nature of the tax by specifying the additional one-half cent tax should expire with the repeal of the eighteenth amendment to the constitution, or when the receipts of the federal government should exceed the expenditures. President Roosevelt proclaimed the repeal of the eighteenth amendment effective December 5, 1933, and on January 1, 1934, the federal gasoline tax rate reverted to 1 cent per gallon.

The various states early recognized that the federal gasoline tax is, and should be, only an emergency federal levy. The first recommendation of the initial report of Interstate Commission on conflicting taxation, unanimously approved on March 25, 1933, stated:

"Gasoline taxes. Since congress has declared that the federal tax on gasoline was levied only as a temporary expedient on account of the emergency, the commission urges the federal government to relinquish this source of revenue for the exclusive use of the states at the end of the next federal fiscal year, namely, June 30, 1934."

Legislatures Petition

The legislatures of the states started petitioning congress as early as 1932 requesting the elimination of the emergency federal gasoline tax and the leaving of this field of taxation solely to the states for the purpose of building and maintaining highways. To date, the following states have memorialized congress in this manner: Arkansas, Mississippi, Montana, New York, North Carolina, Oklahoma, Oregon, South Dakota, Michigan, Maine, Minnesota, Nebraska, South Carolina, Maryland, Tennessee, Texas, New Mexico, Colorado, California, Alabama and Kentucky.

Later the governors of many states openly expressed themselves as urging congress to repeal the federal gasoline tax. Governor Hill McAlester of Tennessee stated: "I wish that the federal government would abandon its tax on gasoline and leave this source of revenue entirely to the states." Governor Clyde Tingley of New Mexico has stated: "It will continue to be the policy of this administration to do everything possible to eliminate the federal tax on gasoline." Similar statements have been made by Governor J. M. Futrell of Arkansas, and governors of other states.

Thus, it appears that the temporary and emergency character of the federal gasoline tax is well recognized by congress, by state administrations, and the motoring public. The latter group—those that pay the tax—are by implication virtually

(Continued on Page 91)

WILDCAT OPERATIONS

CALIFORNIA

IMPORTANT WELLS AND NORTHERN CALIFORNIA WILDCATS

Company, well and location—	S.T.R.	Depth	Status
Shell Oil Co., No. 13 Capitan, Santa Barbara Co.	32- 5-30	2,853	cmtd. 2,640
Shell Oil Co., No. 15 Capitan, Santa Barbara Co.	32- 5-30	....	bldg. rig.
Shell Oil Co., No. 16 Capitan, Santa Barbara Co.	32- 5-30	....	bldg. rig.
La Canada Oil Co., No. 1 Capitan, Santa Barbara Co...	33- 5-30	....	rig
Barnsdall-Rio Grande, No. 12 Elwood, Santa Barbara.	15- 4-29	6,856	prod. test
Spalding, Caroline, No. 5 Elwood, Santa Barbara Co. ..	tideland	3,641	will deepen
York Oil Co., No. 3 Lompoc, Santa Barbara Co.	33- 8-34	....	rigged up
Bush Oil Co., No. 1 Santa Maria, Santa Barbara Co. ..	13-10-34	....	bldg. rig
Union Oil Co., No. 6 Santa Maria, Santa Barbara Co...	24-10-34	....	bldg. rig
Union Oil Co., No. 7 Santa Maria, Santa Barbara Co...	24-10-34	....	bldg. rig
Union Oil Co., No. 8 Santa Maria, Santa Barbara Co...	24-10-34	....	bldg. rig
Union Oil Co., No. 16 Orcutt, Santa Barbara Co.	26- 9-34	3,743	sd. sh. drlg.
Moore, Inc., No. 1 Santa Maria, Santa Barbara Co. ..	25-10-35	3,035	cleaning out
Bankline Oil Co., No. 1 Coal Oil Pt., Santa Barbara Co.	tideland	5,510	redrlg. 771
Anacapa Oil Co., No. 4 Mesa, Santa Barbara Co.	28- 4-27	2,037	O.S. cmtd.
Huseley & Harsett, No. 1 Mesa, Santa Barbara Co. ..	28- 4-27	....	bldg. rig
Calco Pet. Co., No. 1 Las Posas, Ventura Co.	17- 3-20	3,210	milling
Pet. Securities Co., No. 1 Bardsdale, Ventura Co.	7- 3-19	4,997	sd. sh. drlg.
Calkan Pet. Co., No. 1 Sespe, Ventura Co.	23- 5-20	576	sd. sh. drlg.
Condor Oil Co., No. 1 Sespe, Ventura Co.	6- 4-19	1,180	hd. sh. drlg.
Wasibi Oil Co., No. 1 Sespe, Ventura Co.	33- 5-19	201	sd. sh. drlg.
Laing & Jacobs, No. 1 Shiells Canyon, Ventura Co. ..	32- 4-19	1,275	cleaning out
Bestco Pet. Co., No. 1 Shiells Canyon, Ventura Co. ..	2- 3-19	2,840	hd. sd. drlg.
Bankline Oil Co., No. 1 Shiells Canyon, Ventura Co. ..	3- 3-19	4,617	cmtd. 4,617
Petroleum Securities, No. 1 Shiells Canyon, Ventura.	3- 3-19	3,541	hd. sd. drlg.
The Texas Co., No. 129 Shiells Canyon, Ventura Co. ..	4- 3-19	4,812	P.B. 4,260
The Texas Co., No. 130 Shiells Canyon, Ventura Co. ..	4- 3-19	2,760	hd. sd. drlg.
The Texas Co., No. 131 Shiells Canyon, Ventura Co. ..	4- 3-19	1,372	sd. sh. drlg.
Hull, James, No. 1 Santa Susana, Ventura Co.	2- 2-18	1,791	recmtd. 500
Bolsa Chica Oil Co., No. 3 Temescal, Ventuda Co.	4- 4-18	2,581	br. sh. drlg.
Bolsa Chica Oil Co., No. 4 Temescal, Ventura Co.	4- 4-18	799	sd. sh. drlg.
General Pet. Corp., No. 2 Oxnard, Ventura Co.	26- 2-22	7,098	sd. sh. drlg.
Rincon Oil Co., No. 3 Rincon, Ventura Co.	tideland	2,193	prod. test
Continental Oil Co., No. 5 San Miguelito, Ventura Co...	24- 3-24	4,497	sd. sh. drlg.
C. C. M. Oil Co., No. 1 Javon, Ventura Co.	15- 3-24	2,576	sd. sh. drlg.
General Pet. Corp., No. 1 Javon, Ventura Co.	15- 3-24	....	bldg. road
Standard Oil Co., No. 1 Lost Hills, Kern Co.	2-26-20	6,335	cleaning out
Associated Oil Co., No. 2 Lost Hills, Kern Co.	2-26-20	....	rigging up
Richfield Oil Co., No. 2 Devil's Den, Kern Co.	14-25-18	3,360	sd. sh. drlg.
Den Pet. Co., No. 1 Devil's Den, Kern Co.	20-25-19	....	bldg. rig
East Puente Oil Co., No. 21 McKittrick, Kern Co. ...	11-30-21	961	sd. sh. drlg.
Calcrude Pet. Co., No. 1 McKittrick, Kern Co.	34-30-22	1,367	sd. sh. drlg.
Welport Oil Co., No. 14 McKittrick, Kern Co.	26-29-21	1,572	cmtd. 1,572
Bergman, H. L., No. 1 McKittrick, Kern Co.	30-30-22	951	br. sh. drlg.
General Pet. Co., No. 1 South Belridge, Kern Co.	30-28-21	11,377	suspended
Standard Oil Co., No. 4 North Belridge, Kern Co. ...	36-27-20	7,574	sd. sh. drlg.
Associated Oil Co., No. 5 North Belridge, Kern Co. ..	34-27-20	6,095	hd. sh. drlg.
Belridge Oil Co., No. 18-35 North Belridge, Kern Co...	35-27-20	6,571	sd. sh. drlg.
Belridge Oil Co., No. 17-35 North Belridge, Kern Co...	35-27-20	7,398	sd. sh. drlg.
Union Oil Co., No. 20 North Belridge, Kern Co.	36-27-20	9,550	br. sh. drlg.
Union Oil Co., No. 21 North Belridge, Kern Co.	36-27-20	7,430	br. sh. drlg.
Continental Oil Co., No. 7 North Belridge, Kern Co...	36-27-20	8,247	hd. sd. drlg.
C. C. M. Oil Co., No. 18 Kern Front, Kern Co.	23-28-27	2,110	will redrl.
C. C. M. Oil Co., No. 19 Kern Front, Kern Co.	23-28-27	....	rigged up
Republic Pet. Co., No. 11 Kern Front, Kern Co.	11-28-27	1,595	sd. sh. drlg.
Republic Pet. Co., No. 12 Kern Front, Kern Co.	24-28-27	1,928	cmtd. 1,798
Republic Pet. Co., No. 13 Kern Front, Kern Co.	12-28-27	1,471	sd. sh. drlg.
Seven Spot Oil Co., No. 1 Kern Front, Kern Co.	13-28-27	....	bldg. rig
Vega Oil Co., No. 1 Kern Front, Kern Co.	11-28-27	1,755	cmtd. 1,650
National Oil Co., No. 5 Kern Front, Kern Co.	1-28-27	2,000	sd. sh. drlg.
National Oil Co., No. 6 Kern Front, Kern Co.	11-28-27	1,579	sd. sh. drlg.
General Pet. Corp., No. 6 Kern Front, Kern Co.	14-28-27	....	rigging up
General Pet. Corp., No. 7 Kern Front, Kern Co.	14-28-27	....	bldg. rig
Kern River Oilfields, No. 8 Kern Front, Kern Co. ...	25-28-27	....	bldg. rig
Associated Oil Co., No. 7 Kern Front, Kern Co.	23-28-27	2,100	rig to pump
Standard Oil Co., No. 14 Kern Front, Kern Co.	15-28-27	2,175	sd. sh. drlg.
The Texas Co., No. 16 Kern Front, Kern Co.	23-28-27	2,045	pump. 130 b.d.
Union Oil Co., No. 8 Kern Front, Kern Co.	11-28-27	1,692	pump. 80 b.d.
American Expl. Co., No. 1 Kern Front, Kern Co.	16-28-27	2,685	sd. sh. drlg.
Ausbrit Oil Co., No. 1 Premier, Kern Co.	20-27-27	2,139	form. test
Poso Pet. Co., No. 1 Premier, Kern Co.	2-27-27	1,990	sd. sh. drlg.
Union Oil Co., No. 1 Premier, Kern Co.	8-27-27	751	sd. sh. drlg.
Unger, M., No. 1 Dominion, Kern Co.	27-26-28	1,619	P.B. 1,420
McMahan, Hugh, No. 1 Mount Poso, Kern Co.	27-26-28	1,537	pump. water
Union Oil Co., No. 11 Mount Poso Tribe, Kern Co. ..	28-27-28	....	rig
Cal-Coast Apex Oil Co., No. 1 Mount Poso, Kern Co...	36-26-27	1,540	sd. sh. drlg.
General Pet. Corp., No. 13 Mount Poso, Kern Co.	16-27-28	1,580	cmtd. 1,520
General Pet. Corp., No. 14 Mount Poso, Kern Co.	16-27-28	....	bldg. rig
Santa Anita Oil Co., No. 1 Mount Poso, Kern Co.	11-27-27	1,610	gr. sd. drlg.
Tilton & Harp., No. 1 Mount Poso, Kern Co.	6-27-28	1,543	sd. sh. drlg.
British American Oil Co., No. 1 Mount Poso, Kern Co.	31-27-28	1,300	sd. sh. drlg.
Woods & Bailey, No. 1 McFarland, Kern Co.	16-26-26	4,175	cleaning out
Connelly, T. E., No. 1 Fruitvale, Kern Co.	21-29-27	4,453	gr. sd. drlg.
Mosebach Oil Co., No. 1 Fruitvale, Kern Co.	21-29-27	4,000	hd. sh. drlg.
Trico Oil & Gas Co., No. 1 Fruitvale, Kern Co.	23-29-27	3,371	sd. sh. drlg.
Magnet Oil Co., No. 1 Fruitvale, Kern Co.	21-29-27	4,119	sd. sh. drlg.
Western Gulf Oil Co., No. 23 Fruitvale, Kern Co.	27-29-27	3,740	O.S. drlg.
Western Gulf Oil Co., No. 24 Fruitvale, Kern Co.	22-29-27	1,140	sd. sh. drlg.
Western Gulf Oil Co., No. 26 Fruitvale, Kern Co.	27-29-27	....	bldg. rig.
Nydia Pet. Co., No. 1 Fruitvale, Kern Co.	26-29-27	2,051	sd. sh. drlg.
Hogan Pet. Co., No. 14 Mountain View, Kern Co.	32-30-29	5,915	completing
Hogan Pet. Co., No. 15 Mountain View, Kern Co.	4-31-29	3,551	sd. sh. drlg.
Hogan Pet. Co., No. 16 Mountain View, Kern Co.	32-30-29	....	bldg. rig
Buffalo Oil Co., No. 3 Mountain View, Kern Co.	19-30-29	1,892	cleaning out
Petrol Prod. Co., No. 1 Mountain View, Kern Co.	32-30-29	1,791	sd. sh. drlg.
Mohawk Oil Co., No. 16 Mountain View, Kern Co.	30-30-29	6,074	prod. test
Mohawk Oil Co., No. 18 Mountain View, Kern Co.	30-30-29	5,985	rig to pump
Mohawk Oil Co., No. 19 Mountain View, Kern Co.	30-30-29	....	rigging up
Treasure Oil Co., No. 1 Mountain View, Kern Co.	12-30-28	4,187	sd. sh. drlg.
Jergins Trust, No. 8 Mountain View, Kern Co.	19-30-29	4,894	sd. sh. drlg.
Shell Oil Co., No. 9 Mountain View, Kern Co.	32-30-29	5,996	fish. bailer
Shell Oil Co., No. 10 Mountain View, Kern Co.	32-30-29	5,990	cleaning out
Shell Oil Co., No. 11 Mountain View, Kern Co.	32-30-29	4,672	sd. sh. drlg.
Vesta Pet. Co., No. 10 Mountain View, Kern Co.	19-30-29	3,195	sd. sh. drlg.
Mohawk Pet. Co., No. 1 Arvin, Kern Co.	10-31-29	2,794	sd. sh. drlg.
R. & R. Dev. Co., No. 1 Arvin, Kern Co.	32-30-30	727	granite; abd.
R. & R. Dev. Co., No. 3 Arvin, Kern Co.	32-30-30	....	bldg. rig
Ohio Oil Co., No. 1 Rio Bravo, Kern Co.	1-30-25	7,962	sd. sh. drlg.
Shell Oil Co., No. 1 Stevens, Kern Co.	29-30-26	7,888	cmtd. 7,800
Round Mountain Oil Co., No. 2 Round Mountain, Kern	19-28-29	1,913	fish. bailer
Shell Oil Co., No. 5 Round Mountain, Kern Co.	7-28-29	1,548	temp. sus.
Shell Oil Co., No. 6 Round Mountain, Kern Co.	7-28-29	1,579	sd. sh. drlg.
Shell Oil Co., No. 7 Round Mountain, Kern Co.	7-28-29	....	bldg. rig
Shell Oil Co., No. 8 Round Mountain, Kern Co.	7-28-29	....	bldg. rig
Shell Oil Co., No. 9 Round Mountain, Kern Co.	7-28-29	....	bldg. rig
Shell Oil Co., No. 11 Round Mountain, Kern Co.	7-28-29	1,630	rig to pump
Shell Oil Co., No. 12 Round Mountain, Kern Co.	7-28-29	1,750	rig. to pump
Honolulu Oil Corp., No. 18 Round Mountain, Kern Co.	20-28-29	1,940	rig. to pump
Honolulu Oil Corp., No. 19 Round Mountain, Kern Co.	20-28-29	1,351	sd. sh. drlg.
Honolulu Oil Corp., No. 20 Round Mountain, Kern Co.	20-28-29	....	bldg. rig
Benito Huntington Oil, No. 1 Round Mountain, Kern.	8-28-29	....	rigging up
Jergins Trust, No. 20 Edison, Kern Co.	13-30-29	1,478	O.S. drlg.
Jergins Trust, No. 22 Edison, Kern Co.	22-30-29	4,050	pump. 37 b.d.
Jergins Trust, No. 24 Edison, Kern Co.	23-30-29	....	rigging up
Jergins Trust, No. 25 Edison, Kern Co.	14-30-29	....	bldg. rig
Buffalo Oil Co., No. 2 Edison, Kern Co.	24-30-29	1,181	P.B. 928
Wood-Callahan Oil Co., No. 1 Edison, Kern Co.	21-30-29	1,180	sd. sh. drlg.
Wood-Callahan Oil Co., No. 2 Edison, Kern Co.	23-30-29	....	rigging up
Wood-Callahan Oil Co. No. 3 Edison, Kern Co.	21-30-29	....	bldg. rig
Higgins, W. F., No. 1 Edison, Kern Co.	17-30-29	2,591	sd. sh. drlg.
M. & L. Oil Co., No. 1 Edison, Kern Co.	23-30-29	....	bldg. rig
General Pet., No. 15 Edison, Kern Co.	11-30-29	....	rigging up
General Pet., No. 17 Edison, Kern Co.	21-30-29	3,200	pump. 40 b.d.
The Texas Co., No. 8 Edison, Kern Co.	23-30-29	2,115	reaming
Pioneer Holding Co., No. 2 Edison, Kern Co.	17-30-30	1,397	sd. sh. drlg.
General Pet. Corp., No. 1 Elk Hills, Kern Co.	5-30-24	6,149	dry; abd.
Bender, E. A., No. 1 San Emidio, Kern Co.	14-10-23	488	cleaning out
Seaboard Oil Corp., No. 3 Buttonwillow, Kern Co.	8-28-23	2,694	will deepen
C. C. M. Oil Co., No. 28 Midway-Sunset, Kern Co.	28-32-23	....	bldg. rig
Gibson Oil Co., No. 5 Midway-Sunset, Kern Co.	8-11-23	....	rigging up
Gibson Oil Co., No. 6 Midway-Sunset, Kern Co.	6-11-23	2,660	sd. sh. drlg.
Chief Oil Co., No. 3 Midway-Sunset, Kern Co.	6-11-23	984	sd. sh. drlg.
General Pet. Corp., No. 61 Midway-Sunset, Kern Co...	24-31-23	1,200	cleaning out
General Pet. Corp., No. 2 Midway-Sunset, Kern Co....	6-11-23	2,396	sd. sh. drlg.
General Pet. Corp., No. 15-F Midway-Sunset, Kern Co.	6-11-23	....	rigging up
Shell Oil Co., No. 1 Midway-Sunset, Kern Co.	7-11-23	2,794	pump. 237 b.d.
Hoyt, Otis, No. 1 Midway-Sunset, Kern Co.	7-11-23	1,617	bailing
Bankline Oil Co., No. 1 Midway-Sunset, Kern Co.	6-11-23	2,791	sd. sh. drlg.
Standard Oil Co., No. 25 Midway-Sunset, Kern Co. ..	36-12-24	2,896	sd. sh. drlg.
Standard Oil Co., No. 30 Midway-Sunset, Kern Co. ..	31-12-23	3,364	cmtd. 3,340
Standard Oil Co., No. 4 Midway-Sunset, Kern Co.	5-11-23	2,715	pump. 200 b.d.
Standard Oil Co., No. 203 Midway-Sunset, Kern Co. ..	5-11-23	....	bldg. rig
Standard Oil Co., No. 219 Midway-Sunset, Kern Co. ..	33-32-24	....	bldg. rig
Quality Oil Co., No. 2 Midway-Sunset, Kern Co.	22-32-23	1,985	cleaning out
South Cerritos Oil Co., No. 1 Midway-Sunset, Kern Co.	23-32-23	965	sd. sh. drlg.
Berry Holding Co., No. 23 Midway-Sunset, Kern Co. ..	34-12-24	970	cmtd. 950
Alford Oil Co., No. 5 Midway-Sunset, Kern Co.	4-32-23	3,358	P.B. 3,180
Burkeholder Oil Corp., No. 1 Midway-Sunset, Kern Co.	23-32-23	590	sd. sh. drlg.
Fairfield, F. E., No. 1 Midway-Sunset, Kern Co.	23-32-23	....	bldg. rig

KEY TO ABBREVIATIONS USED IN DRILLING REPORTS

Abd., abandoned.
Bldg., building.
B.D., barrels daily.
B.P., back pressure.
B.R., building rig.
Br. sh., brown shale.
B.S., basic sediment.
C.P., casing pressure.
Cd. or Crd., cored.
C.D., corrected depth.
Cg., coring.
C.L., center line.
Cmtd., cemented.
C.O., cleaning out.
Comp., completed.
Compr., compressor.
C.P., casing pressure, also cement through perforations.
Csg., casing.
D.D., drilling (or drilled) deeper.
Drlg., or Drg., drilling.
Drk. or Dk., derrick.
D.S., drill stem.
D.&A., dry and abandoned.
Fsg., fishing.
Gbo., gumbo.
G.I., gas injection.
Gr., gravity.
Gr. sd., gray sand.
Grn. sh., green shale.
Hd. sd., hard sand.
H.F.W., hole full of water.
I.P., initial production.
L., lime.
L.D.D., later drilled deeper.
Lnr., liner.
Loc., location.
M.I.M., moving in material.
M.I.R., moving in rig.
M.I.R.T., moving in rotary tools.
M.O.T., milling on tools.
O.I.H., oil in hole.
O.S., oil sand.
O.T.D., old total depth.
O.W.D.D., old well drilling deeper.
O.W.P.B., old well plugging back.
P.B., plugging or plugged back.
P.B.P., pulling big pipe.
P.L., pipe line.
P.L.O., pipe line oil.
Pmpg., pumping.
P.O.P., putting on pump.
P.P., pulled pipe.
Rd. sd., red sand.
Rd. sh., red shale.
Recmt., recemented.
Rmg., reaming.
Redrlg., redrilling.
Rng., running.
R.O.G., rig on ground.
R.P., rock pressure.
R.U., rigging up.
R.U.R., rigging up rotary.
R.U.R.T., rigging up rotary tools.
R.U.S.T., rigging up standard tools.
R.&T., rods and tubing.
S. or Sd., sand.
S.D., shut down.
Sd. sh., sandy shale.
Sdtr. or St., sidetracking.
S.D.P.L., shut down for pipe line.
S.D.W.O., shut down awaiting orders.
S.G., show gas.
Sh.&L., shale and lime.
S.I., shut in.
S.I.P., shut in, prorated.
S.L.M., steel line measurement.
S.O., show oil.
S.O.G.&W., show of oil, gas and water.
Spdg. or Spd., spudding.
S.R., straightreaming.
Stdg., standardizing (also standing).
S.W., salt water.
Swbg., swabbing.
T.A., temporarily abandoned.
Tbg., tubing.
T.D., total depth.
T.P., tubing pressure.
Tr., tract.
U.R., underreaming.
W.I.H., water in hole.
W.O., workover.
W.O.C. or W.O.C.S., waiting on cement to set.
W.P., working pressure.
W.S.O., water shutoff.
W.S.O.O.K., water shutoff O.K.
W.S.O.N.G., water shutoff no good.
W.S.R. or W.O.S.R., wait on standard rig.
Wtr., water.

The Texas Co., No. 15 Midway-Sunset, Kern Co. .... 32-32-24 1,131 sd. sh. drlg.
Obispo Oil Co., No. 12 Midway-Sunset, Kern Co. .... 32-12-23 2,797 sd. sh. drlg.
Jerman, R. W., No. 1 Midway-Sunset, Kern Co. ..... 31-12-23 3,380 pump. water
Ohio Oil Co., No. 7 Buena Vista Lake, Kern Co. .... 5-32-26 3,961 sd. sh. drlg.
Ohio Oil Co., No. 1 Tejon, Kern Co. ..... 36-11-19 2,031 sd. sh. drlg.
Reserve Oil & Gas Co., No. 1 Tejon, Kern Co. ..... 33-11-19 6,022 P.B. 4,805
Tejon Ridge Oil Co., No. 1 Comanche, Kern Co. .... 23-32-29 2,397 cleaning out
Western Gulf, No. 3 Cantua, Fresno Co. ..... 5-17-15 5,975 hd. sd. drlg.
Conlon, J. M., No. 1 Coalinga, Fresno Co. ..... 30-19-15 1,120 sd. sh. drlg.
Standard Oil Co., No. 1 South Coalinga, Fresno Co. .. 36-21-14 1,904 hd. sd. drlg.
Union Oil Co., No. 1 Lillis-Welsh, Fresno Co. ..... 24-21-16 11,127 P.B. 10,729
K. N. D. A., No. 2 Kettleman North, Fresno Co. .... 20-21-17 8,210 P.B. 8,170
K. N. D. A., No. 28 Kettleman North, Fresno Co. .... 18-21-17 5,187 sd. sh. drlg.
K. N. D. A., No. 43 Kettleman North, Fresno Co. .... 30-21-17 .... rig; sus.
K. N. D. A., No. 74 Kettleman North, Fresno Co. .... 30-21-17 7,461 br. sh. drlg.
K. N. D. A., No. 81 Kettleman North, Fresno Co. .... 24-21-16 2,131 sd. sh. drlg.
K. N. D. A., No. 36 Kettleman North, Kings Co. ..... 36-22-18 9,733 P.B. 9,065
Standard Oil Co., No. 25 Kettleman North, Fresno Co. 19-21-17 6,870 br. sh. drlg.
Standard Oil Co., No. 42 Kettleman North, Fresno Co. 19-21-17 6,160 sd. sh. drlg.
Standard Oil Co., No. 56 Kettleman North, Fresno Co. 19-21-17 6,382 sd. sh. drlg.
Standard Oil Co., No. 65 Kettleman North, Fresno Co. 19-21-17 7,880 br. sh. drlg.
Standard Oil Co., No. 72 Kettleman North, Fresno Co. 19-21-17 7,671 hd. sd. drlg.
Standard Oil Co., No. 3 Kettleman Middle, Kings Co.. 19-23-19 .... bldg. rig
Kettleman View Oil Co., Well No. 1, Kings Co. ..... 29-22-19 1,629 recmt. 1,451
Commonwealth Consd. Gas, No. 2 Tulare Lake, Kings 21-22-20 2,495 hd. sh. drlg.
Pismo Pet. Corp., No. 2 Pismo, San Luis Obispo Co... 5-32-13 .... bldg. rig
United Oil Co., No. 1 Panorama, San Luis Obispo Co.. 2-32-21 476 sd. sh. drlg.
Taft Well Drlg. Co., No. 1 Pismo, San Luis Obispo Co. 31-31-13 3,700 br. sh. drlg.
Martin, J. D., No. 4 Pismo, San Luis Obispo Co. .... 5-32-13 2,236 sd. sh. drlg.
Martin, J. D., No. 5 Pismo, San Luis Obispo Co. .... 5-32-13 1,996 sd. sh. drlg.
Birch-Royer Oil Co., No. 1 Pismo, San Luis Obispo Co. 33-31-13 1,850 sd. sh. drlg.
Jergins Trust, No. 1 Pismo, San Luis Obispo Co. .... 5-32-13 .... rigging up
Barnsdall Oil, No. 1 Carissa Plains, San Luis Obispo.. 24-28-17 3,559 P.B. 3,080
Bacon, E. D., No. 1 Carissa Plains, San Luis Obispo.. 22-31-21 298 sd. sh. drlg.
Burch, I. L., No. 1 Cuyama, San Luis Obispo Co. .. 4-10-26 252 sd. sh. drlg.
Standard Oil Co., No. 1 McDonald Island, San Joaquin 26- 3- 4 5,227 cmtd. 5,153
Pure Oil Co., No. 3 Chowchilla, Madera Co. ..... 17-10-14 2,300 shows gas
Northern Counties Pet., No. 1 Tehama, Tehama Co. .. 25-24- 3 7,652 hd. sh. drlg.
Shell Oil Co., No. 1 Branch, Monterey Co. ..... 34-24-10 9,000 sd. sh. drlg.
Hillman & Anderson, No. 1 Parkfield, Monterey Co... 15-24-14 .... bldg. rig
The Texas Co., No. 2 Eureka, Humboldt Co. ..... 22- 3- 1 4,357 fish. D.P.
Amerada Pet. Co., No. 1 Emigh, Solano Co. ..... 26- 4- 2 4,395 sd. sh. drlg.
Fortine, W. H., No. 1 Terra Bella, Tulare Co. .... 22-22-26 .... rigging up

IMPORTANT WELLS AND SOUTHERN CALIFORNIA WILDCATS

Company, well and location—	S.T.R.	Depth	Status
Republic Pet. Co., No. 2 El Segundo, Los Angeles Co...	18- 3-14	7,477	flow. 300 b.d.
Marvin, J. L., No. 1 El Segundo, Los Angeles Co.	7- 3-14	7,521	O.S. drlg.
Ohio Oil Co., No. 1 El Segundo, Los Angeles Co.	7- 3-14	1,160	sd. sh. drlg.
Signal Finance, No. 1 Hawthorne, Los Angeles Co. ..	10- 3-14	3,841	rigged up
Brown, R. A., No. 1 Torrance, Los Angeles Co.	31- 3-14	1,755	sd. sh. drlg.
White Five Oil Co., No. 1 Torrance, Los Angeles Co...	31- 3-14	3,700	bailing
White Five Oil Co., No. 2 Torrance, Los Angeles Co...	31- 3-14	....	material
Walsh Co., No. 1 Torrance, Los Angeles Co.	31- 3-14	....	bldg. rig
Pongrats Oil Co., No. 1 Torrance, Los Angeles Co. ..	31- 3-14	....	rigging up
Linderman, G. K., No. 2 Torrance, Los Angeles Co. ..	31- 3-14	....	rigging up
Regent Oil Co., No. 1 Torrance, Los Angeles Co.	6- 4-14	3,060	cmtd. 3,053
Sterling Oil Co., No. 1 Torrance, Los Angeles Co.	31- 3-14	4,200	redrlg. 2,352
Sterling Oil Co., No. 2 Torrance, Los Angeles Co.	31- 3-14	1,765	sd. sh. drlg.
Roach, W. C., No. 1 Torrance, Los Angeles Co.	31- 3-14	3,622	pump. 130 b.d.
Walken Oil Co., No. 1 Torrance, Los Angeles Co. ..	5- 4-14	3,542	sd. sh. drlg.
Dumas-Brown Oil Co., No. 1 Torrance, Los Angeles Co.	6- 4-14	3,190	sd. sh. drlg.
Dumas-Lewis Oil Co., No. 2 Torrance, Los Angeles Co.	6- 4-14	....	rigging up
B. & N. Oil Co., No. 1 Torrance, Los Angeles Co.	18- 4-14	3,369	pump. 50 b.d.
Langstaff Pet. Corp., No. 1 Torrance, Los Angeles Co.	31- 3-14	60	tech. spud.
Lawler Pet. Co., No. 1 Torrance, Los Angeles Co.	31- 3-14	3,053	cmtd. 3,045
Macvan Oil Co., No. 1 Torrance, Los Angeles Co.	31- 3-14	3,741	sd. sh. drlg.
Redondo Oil Corp., No. 1 Torrance, Los Angeles Co. ..	31- 3-14	3,525	O.S. drlg.
Petrol Corp., No. 1 Torrance, Los Angeles Co.	31- 3-14	3,552	temp. sus.
Tu-Jax Oil Co., No. 1 Torrance, Los Angeles Co.	32- 3-14	3,512	O.S. drlg.
Southwestern Pet. Co., No. 1 Torrance, Los Angeles Co.	31- 3-14	....	rigging up
Continental Royalties, No. 1 Torrance, Los Angeles Co.	6- 4-14	1,030	cmtd.
Rennek Oil & Gas Co., No. 1 Torrance, Los Angeles Co.	5- 4-14	3,448	cleaning out
Rennek Oil & Gas Co., No. 2 Torrance, Los Angeles Co.	5- 4-14	1,120	sd. sh. drlg.
C. C. M. Oil Co., No. 23 Torrance, Los Angeles Co. ..	8- 4-14	4,887	cleaning out
Silver Pet. Co., No. 1 Inglewood, Los Angeles Co.	16- 2-14	871	sd. sh. drlg.
West American Oil Co., No. 1 Dominguez, Los Angeles	3- 4-13	3,400	sd. sh. drlg.
Crude Oil Drlg. Co., No. 1 Gardena, Los Angeles Co...	31- 3-13	....	bldg. rig.
Union Oil Co., No. 8 Dominguez Carson, Los Angeles..	33- 3-13	7,070	sd. sh. drlg.
Barnsdall Oil Co., No. 15 Rosecrans, Los Angeles Co...	18- 3-13	4,955	redrlg. 4,930
Republic Pet. Co., No. 1 Rosecrans, Los Angeles Co...	18- 3-13	1,184	sd. sh. drlg.
Mars Oil Co., No. 1 Athens, Los Angeles Co.	7- 3-13	3,968	will P.B.
Associated Oil Co., No. 18 Seal Beach, Los Angeles Co.	11- 5-12	6,174	sd. sh. drlg.
Continental Oil Co., No. 39 Seal Beach, Los Angeles..	3- 5-13	....	rigging up
Standard Oil Co., No. 27 Seal Beach, Los Angeles Co..	3- 5-13	6,240	form. test
Eastern Oil Co., No. 1 Del Rey, Los Angeles Co.	32- 2-15	7,420	cmtd. 7,300
Deuel, W. E., No. 1 Del Rey, Los Angeles Co.	27- 2-15	....	bldg. rig
Union Oil Co., No. 22 Del Rey, Los Angeles Co.	27- 2-15	5,050	sd. sh. drlg.
Yant Pet. Corp., No. 1 Newhall, Los Angeles Co. ..	1- 3-16	2,024	cmtd. 1,673
Barnsdall Oil Co., No. 1 Newhall, Los Angeles Co.	34- 4-17	....	grade road
Jones & Co., No. 1 Newhall, Los Angeles Co.	36- 4-17	....	bldg. rig
Pomaco Royalty Co., No. 1 Palos Verdes, Los Angeles	1- 5-14	....	bldg. rig
Harbor Pet. Co., No. 1 Wilmington, Los Angeles Co. ..	28- 4-13	3,450	O.S. drlg.
Hull, James, No. 1 Wilmington, Los Angeles Co.	20- 4-13	....	rigging up
Codri Oil Co., No. 1 Wilmington, Los Angeles Co.	29- 4-13	3,824	sd. sh. drlg.
General Pet. Corp., No. 1 Wilmington, Los Angeles Co.	4- 5-13	2,694	cmtd. 2,450
Monarch Oil Corp., No. 1 Topango Canyon, Los Angeles	5- 1-16	1,530	sd. sh. drlg.
Standard Oil Co., No. 79 Montebello, Los Angeles Co...	2- 2-12	3,715	cleaning out
Standard Oil Co., No. 81 Montebello, Los Angeles Co...	2- 2-12	3,950	completing
Standard Oil Co., No. 82 Montebello, Los Angeles Co...	2- 2-12	8,000	hd. sh. drlg.
Standard Oil Co., No. 85 Montebello, Los Angeles Co...	2- 2-12	....	material
Universal Consd., No. 6 Montebello, Los Angeles Co...	5- 2-11	5,572	completing
Wilshire Oil Co., No. 1 Montebello, Los Angeles Co. ..	5- 2-11	5,905	rig. comp.
Richfield Oil Co., No. 1 Montebello, Los Angeles Co...	5- 2-11	6,071	form. test
Richfield Oil Co., No. 2 Montebello, Los Angeles Co...	5- 2-11	5,421	reaming
North American, No. 2 Montebello, Los Angeles Co...	5- 2-11	5,950	sd. sh. drlg.
St. Helens Pet. Co., No. 7 Montebello, Los Angeles Co.	5- 2-11	4,575	hd. sd. drlg.
Oil & Gas Associates, No. 1 Pico, Los Angeles Co.	9- 2-11	4,332	hd. sd. drlg.
Bernstein, M. E., No. 1 Artesia, Los Angeles Co.	25- 3-12	5,888	redrlg. 4,842
McVicar & Rood, No. 1 San Jose Hills, Los Angeles Co.	6- 2- 9	1,520	sd. sh. drlg.
Great Coastal Oil Co., No. 1 Elsinore, Riverside Co. ..	36- 5- 5	2,510	hd. sd. drlg.
Commander Oil Co., No. 1 Newport, Orange Co.	29- 6-10	2,130	bailing
Terry, George, No. 1 Westminister, Orange Co.	17- 5-11	4,198	sd. sh. drlg.
Hillman & Long, No. 1 Westminister, Orange Co.	14- 5-11	7,701	cmtd. 5,557
B. A. L. Oil Co., No. 1 Huntington, Orange Co.	36- 5-11	2,287	sd. sh. drlg.
West American Oil Co., No. 1 East Coyote, Orange Co.	24- 3-10	1,131	sd. sh. drlg.
Union Oil Co., No. 28 Chapman Richfield, Orange Co..	30- 3- 9	796	sd. sh. drlg.
Union Oil Co., No. 29 Chapman Richfield, Orange Co..	30- 3- 9	3,569	sd. sh. drlg.
Union Oil Co., No. 31 Chapman Richfield, Orange Co..	30- 3- 9	3,257	cmtd. 3,241
Union Oil Co., No. 33 Chapman Richfield, Orange Co..	30- 3- 9	2,160	sd. sh. drlg.
Tehama Pet. Co., No. 2 Kraemer, San Bernardino Co..	33- 2- 8	566	sd. sh. drlg.
Tehama Pet. Co., No. 3 Kraemer, San Bernardino Co..	3- 3- 8	312	sd. sh. drlg.
Tehama Pet. Co., No. 4 Kraemer, San Bernardino Co..	32- 2- 8	148	hd. sd. drlg.
Equitable Pet. Co., No. 1 Wildcat, San Bernardino Co..	11-10- 5	2,398	hd. sd. drlg.

KANSAS

Week Ending May 30. (Descriptions are East unless marked otherwise)

Barber County

Sinclair Prairie Oil Co. No. 1 Gentry, NE cor. sec. 1-33-15w. Loc.

Barton County

J. A. Brouk et al No. 1 Keil, SE SE NE sec. 11-16-15w. Bldg. rig.

John Burton No. 1 Wendel, NE cor. sec. 13-19-11w. S.D. 63 ft.

Davison et al No. 1 Birzer, SW SE SW sec. 22-17-12w. Anhydrite 760 ft.; Topeka 2,770 ft.; U.R. 2,515 ft.

G. H. Rose and W. H. Lant No. 1 Redetzke, NE NW NW sec. 1-16-11w. R.U.

Rose Spring Drlg. Co. et al No. 1 Rick, SW cor. sec. 1-19-11w. Set 10-in. csg.

Roy Ramsey et al No. 1 Hunt, NW cor. sec. 10-18-11w. Siliceous 3,382 ft.; T.D. 3,404 ft.; est. 25 bbls. oil per day. P.B. 3,402 ft.; acidized; no increase; P.B. 3,400 ft.; acidized; D.&A.

Schermerhorn Oil Co. No. 1 Hunter, NE cor. sec. 29-18-15w. K.C. 3,194 ft.; La Motte; T.D. 3,516 ft.; est. 38,500,000 ft. of gas; killed gas.

Torry & Feaster No. 1 Feist, NE NE SE sec. 29-18-11w. Siliceous L. 3,430-32½ ft.; T.D.; potential; pumped 346 bbls. oil in 18½ hrs.

Wakefield & Johnson No. 1 Bumm, SW SW NE sec. 22-19-12w. Anhydrite 665 ft.; drlg. 1,930 ft.

Butler County

Dalton et al No. 1 Miley, C SW NE sec. 17-27-5. R.U.

Ellis et al No. 1-A Pettit, SE SE NW sec. 21-28-6. Drlg. 2,800 ft.

McGinnis et al No. 1 Hinnen, NE NE SW sec. 18-24-4. Drlg. 1,350 ft.

Rex & Morris No. 1 Olson, NW SW SE sec. 15-28-6. S.D. 1,782 ft.

Sanford et al No. 1 Weaver Est., SE SE NE sec. 11-28-5. T.D. 2,800 ft.; D.&A.

Cowley County

Baden Prod. Co. No. 1 Sparks, SE SW NW sec. 35-33-4. S.D. 1,687 ft.

Benedum-Trees No. 1 Carson, SW SW NW sec. 8-30-4. Drlg. 2,028 ft.

Craft et al No. 1 Whitson, NE NE NE sec. 20-33-4. Drlg. 50 ft.

DeGenther Oil Co. No. 1 Holt, NW NW SE sec. 15-30-5. R.U.

W. M. McKnabb No. 1 Community, C NE NW sec. 14-34-3. Set 15-in. csg. 656 ft.

A. D. Morton et al No. 1 Roger, SE SE NE sec. 1-31-4. S.D. 423 ft.

Roth & Faurot No. 1 Guthrie, NW cor. Lot 14, sec. 30-33-5. H.F.W. 3,146 ft.; P.B. 2,300 ft.; acidized; flowed 22 bbls. in 1 hr.

Cameron & Pulse No. 1 Simpson, C NE NW sec. 3-30-4. Drlg. 415 ft.

Wakefield et al No. 1 Daniels, SE SW SE sec. 3-30-3. Fsg. 2,622 ft.

Decatur County

Winkler & Koch No. 1 Veasey, C NW SE sec. 26-3-26w. B.R.

Edwards County

Stanolind O. & G. Co. et al No. 1 Donovan, C SE SE sec. 14-26-18w. Anhydrite 1,167 ft.; K.C. 4,028 ft. (cor.); R.U.S.T. 4,055 ft.

Ellis County

Albec Oil Co. No. 1 Union Pacific, NE cor. sec. 9-13-20w. Drlg. 3,290 ft.

Bradley Oil Co. et al No. 1 Penney-Wann, SE cor. sec. 13-15-20w. Drlg. 600 ft.

James Brouk et al No. 1 Jacobs, NW NW SE sec. 31-15-16w. R.U.

Empire O. & R. Co. No. 1 Herl, SE cor. sec. 22-15-19w. Anhydrite 1,135 ft.; drlg. 1,142 ft.

Empire O. & R. Co. No. 1 Samuelson, NE NE SE sec. 31-11-16w. Loc.

Bridgeport Machine Co. et al No. 1 Madden Est., NE NW NW sec. 26-15-18w. Anhy. 1,150 ft.; drlg. 3,010 ft.

Brunson & Ewers-Simpson No. 1 Gross, NE NE SW sec. 29-14-17w. Anhydrite 1,110 ft.; Topeka 2,960 ft.; Oswald 3,244-46 ft.; Siliceous 3,507 ft.

Harris & Haun et al No. 1 Schmeidler, SE SE SW sec. 3-13-17w. S.D. 2,700 ft.

Jones & Shelbourne No. 1 Gunther, SE SE SW sec. 9-11-19w. Drlg. 110 ft.

Jones Bros. & Carpenter et al No. 1 Solomon, SE SE SW sec. 28-11-19w. Anhydrite 1,408 ft.; Oswald 3,340 ft.; U.R. 3,433 ft.

Muth et al No. 1 Penney, SW SW SE sec. 29-14-18w. M.I.M.

Tom Palmer No. 1 Schoenthaler, NE NE NW sec. 31-12-19w. Oswald 3,370 ft.; cg. 3,965 ft.; Siliceous 3,864 ft.; T.D. 3,875 ft.; D.&A.

Parrish & Denman No. 1 Walter, SE SW SE sec. 14-13-17w. Anhydrite 1,152 ft.; drlg. 1,157 ft.

J. E. Trigg et al No. 1 Armbrister, SE SE SW sec. 6-11-19w. T.D. 125 ft.; W.O.C.

Twin Drlg. Co. No. 1 Copeland, NE NE SW sec. 26-14-19w. Anhydrite 1,350 ft.; drlg. 3,105 ft.

Twin Drlg. Co. et al No. 1 Schmidt, SW SW SE sec. 22-15-17w. R.U.

Vickers Pet. Co. No. 1 Kraus, SW SW NW sec. 22-14-19w. Drlg. 1,125 ft.

Wolf Creek Oil Co. et al No. 1 Polifka, SW SW NE sec. 24-13-18w. Cellar.

Yarnell & Carlson No. 1 Phillip, NW NW SE sec. 2-14-18w. Anhydrite 1,227 ft.; Oswald 3,332-34 ft.; set 6-in. csg.

Ellsworth County

York State Oil Co. No. 1 Koestle, NW NW SE sec. 13-17-9w. Loc.

Finney County

Helmerich & Payne No. 1 Jones, C SE sec. 34-26-34w. Rig.

Lone Star State Drlg. Co. No. 1 Hamlin. SW SW NE sec. 21-24-34w. Set 6-in. csg. 2,418 ft.; drlg. 2,451 ft.

Graham County

Noah & Young No. 1 Hills, NW SE SE sec. 19-10-21w. Rig.

Vickers Pet. Co. and Phillips Pet. Co. No. 1 Hutton, NE NE SE sec. 29-8-22w. Anhydrite 1,695 ft.; drlg. 3,122 ft.

Greenwood County

Hale & Reese No. 1 Needles, NE SE NW sec. 12-25-10. S.D. 285 ft.

Ward McGinnis No. 1 Lampe, NW NE SW sec. 26-24-8. Spudded.

Harper County

Marathon Oil Co. No. 1 Zellers, C SW NW sec. 17-35-3w. Wilcox sand 5,320 ft.; S.O. and gas, salty taste; T.D. 5,410 ft.; fsg.

Harvey County

Harburney Oil Co. No. 1 Schrag, NW NW SE sec. 24-22-3w. Fsg. 2,875 ft.

Haskell County

Helmerich & Payne et al No. 1 Larson, C SE sec. 28-28-33w. Rig.

Helmerich & Payne No. 1 Meredith, C SW sec. 10-30-33w. Loc.

Kuhn Bros. et al No. 1 Nilson, SW SW SE sec. 21-28-32w. Set 10-in. csg. 604 ft.

Kingman County

D. R. Lauck et al No. 1 Prather, C SE sec. 18-27-8w. Drlg. 1,980 ft.

D. R. Lauck et al No. 1 Skilling, C E½ E½ SW sec. 32-27-8w. O.W.D.D.; drlg. 4,583 ft.

Oklahoma Oil Corp. et al No. 1 Reeves, NW cor. sec. 29-27-5w. Drlg. 2,073 ft.

McPherson County

Empire O. & R. Co. No. 1 Cunningham, SE cor. sec. 26-18-1w. Chat 2,803 ft.; T. D. 2,832 ft.; 800 ft. oil in hole in 12 hrs.

Hawkins et al No. 1 Ritikofer, NE NE SE sec. 2-20-10w. Rig.

T. C. Johnson, et al No. 1 A. R. Johnson, SW SW NW sec. 33-17-1w. S.D. 1,275 ft.

Ness County

Continental Oil Co. No. 1 Thompson, C E½ E½ SW sec. 13-18-26w. Siliceous and S.O. 4,446-50 ft.; drlg. 4,457 ft.

Newton Dev. Co. No. 1 Tenny, NW NW SE sec. 19-18-25w. B.R.

Reno County

Dickey Oil Co. No. 1-A Shepherd, NE NE NW sec. 22-26-9w. Chat 3,870 ft.; wtr., 4,161 ft.; P.B. 4,135 ft.; drlg. 4,148 ft.

Foraker et al No. 1 Hiett, SE SW NE sec. 34-24-4w. S.O. 2,874 ft.; H.F.W. 2,-935 ft.; S.D. 2,948 ft.

Graham et al No. 1 Miller, NE NE SE sec. 36-25-10w. Bldg. rig.

Miller et al No. 1 Detter, NE SE NW sec. 28-22-7w. Spudded and S.D.

Rose Spring Drlg. Co. No. 1 Swansen, NE NE NW sec. 1-23-5w. R.U.

Rice County

Beardmore et al No. 1 Fuller, SW SW SE sec. 23-18-7w. U.R. 2,915 ft.

Day No. 1 Mason, NW NE NE sec. 28-21-7w. Chat 3,388-3,400 ft.; acidized, pumped 133 bbls. in 5 hrs.; C.O.

Dickey Oil Co. and Continental Oil Co. No. 1 Newkirk, NE NE SW sec. 11-18-7w. Simpson 3,179 ft.; Viola 3,296 ft.; S.D. 3,354 ft.

Duwe & Schneider No. 1 Wright, NE cor. sec. 36-21-7w. K.C. 2,925 ft.; H.F.W. 3,-055 ft.; drlg. 3,324 ft.

Gilmac Oil Co. No. 1 Sargent, SE cor. sec. 31-18-6w. C.O. 2,240 ft.

Grattan et al No. 1 Williams, SW SW NW sec. 17-18-7w. K.C. L. 2,818 ft.; cg. 3,-202 ft.; H.F.W. 3,207 ft.; T.D. 3,363 ft.

Gulf Oil Corp. No. 1 Steckel, SW cor. sec. 30-19-10w. Set 10-in. csg. 150 ft.

Permian Oil Co. No. 1 Monroe, C NE NE sec. 9-20-7w. Set 10-in. csg. 2,114 ft.; S.D. 2,605 ft.

Sage et al No. 1 Patton, SW cor. sec. 5-21-7w. Rig.

Shell Pet. Corp. et al No. 1 Hafermann, C N½ N½ SE sec. 6-19-9w. Cg. 2,892 ft.

Shell Pet. Corp. No. 1 Maughlin, NE NW SE sec. 11-20-8w. T.D. 3,223 ft.; to make D.S.T.

Simpson & Noble et al No. 1 Pulliam, C S½ N½ NE sec. 35-19-8w. K.C. L. 2,-846 ft.; U.R. 2,950 ft.

Simpson & Noble and Stanolind O. & G. Co. No. 1 Bowman, SW SW NW sec. 22-19-10w. Anhydrite 438 ft.; drlg. 2,120 ft.

Skiles et al No. 1 Stout, SE cor. sec. 6-21-9w. Drlg. 2,644 ft.

Rooks County

Hartman & Blair et al No. 1 Hall, NW cor. sec. 25-10-17w. R.U.

Helmerich & Payne et al No. 1 Bedard, C NE sec. 29-9-19w. R.U.

L. C. D. Drlg. Co. et al No. 1 Westhusin. C NE SE sec. 11-9-17w. Rig.

J. H. Lester No. 1 Methene, SE SE NE sec. 29-10-20w. Drlg. 1,640 ft.

Murfin et al No. 1 Washusin, NE NE SE sec. 19-9-16w. Drlg. 3,165 ft.

J. A. Shoemake No. 1 Stebbins, NE NE SW sec. 26-7-17w. Set 16-in. csg. 380 ft.

Skaer Oil Corp. et al No. 1 Dryden, NE cor. sec. 28-10-17w. S.D. 2,430 ft.

Trees Oil Co. No. 1 Minx, SW cor. sec. 31-10-18w. Loc.

Rush County

Boyle & Grossman No. 1 Wilson, NE cor. sec. 33-17-19w. Drlg. 2,020 ft.

Ira Keith et al No. 1 Dartmouth Savings Bank, SW SW NE sec. 3-17-18w. Oswald 3,335 ft.; R.U.S.T. 3,346 ft.

National Ref. Co. No. 1 Werth, NW NE NE sec. 7-16-18w. Anhydrite 1,195 ft.; Oswald 3,328 ft.; T.D. 3,572 ft.; est. 50 B.D.

Pryor & Lockhart et al No. 1 Stegman, SW NW NE sec. 11-16-17w. Anhydrite 1,095 ft.; drlg. 2,335 ft.

Rose Spring Drlg. Co. et al No. 1 Jacobs,

SW SE NW sec. 8-16-17w. LaMotte sd. 3,570-72 ft.; Siliceous 3,560-84 ft., T.D.; D.&A.

Russell County

Armer et al No. 1 Maier, NE NW NE sec. 20-15-14w. Rig.

R. G. Berry et al No. 1 Cook, NE NE SE sec. 19-11-13w. Oswald 3,097 ft.; conglomerate 3,412 ft.; C.O. 3,517 ft.

Central Pet. Co. No. 1 Furthmeyer, NE cor. sec. 28-14-15w. Anhydrite 838 ft Oswald 3,022 ft.; Siliceous 3,282 ft. (cor.); T.D. 3,322 ft.; D.&A.

Darby Pet. Corp. and Continental Oil Co. No. 1 Letsch, SE NE NW sec. 34-14-13w. Granite wash 3,238 ft.; granite 3,262-65 ft.; P.B. 2,280 ft.

Eisenhour & Shaffer No. 1 Humes, SW SW SW sec. 6-14-12w. Siliceous 3,376 ft.; drlg. 3,379 ft.

Hartman & Blair No. 1 Johnston, NW cor. sec. 11-13-14w. Drlg. 190 ft.

Hartman & Blair No. 1 McAllister, SW SW SE sec. 24-13-16w. Anhydrite 940 ft.; drlg. 2,425 ft.

Lario O. & G. Co. et al No. 1 Steinert, NE NE SW sec. 21-15-15w. Drlg. 326 ft.

Stearns & Streeter et al No. 1 John Hancock Ins. Co., SE SW SW sec. 31-12-14w. Topeka 2,567 ft.; Oswald 2,845 ft.; Siliceous 3,123 ft.; T.D. 3,205 ft.; D.&A.

R. C. Tarrant No. 1 Williamson, SE SE NW sec. 9-14-14w. Tarkio L. 2,515 ft.; T.D. 2,550 ft.; swbd. 5 B.P.H. and showing of wtr.; acidized with 1,000 gals.; made potential of 243 bbls. of oil.

P. G. Reynolds No. 1 Fredrickson, SE SW SE sec. 6-13-12w. Oswald 2,987 ft.; set 6-in. csg. 3,017 ft.; T.D. 3,170 ft.; P.B. 3,040 ft.; acidized.

Wakefield et al No. 1 Krug, NE NW SW sec. 7-15-14w. Anhydrite 845 ft.; drlg. 2,185 ft.

Saline County

James Brouk et al No. 1 Othelander, NE NW SE sec. 10-16-3w. Spudded and S.D.

Sedgwick County

Joe Aylward et al No. 1 Harrison, SE SE SW sec. 23-25-2. Drlg. 1,795 ft.

Dickey Oil Co. No. 1 Ayers, SW SW NW sec. 12-27-2. Chat 2,886 ft.; drlg. 3,127 ft.

D. R. Lauck No. 1 Parke, SE SE NE sec. 17-25-2. Drlg. 2,800 ft.

Seward County

Helmerich & Payne No. 1 Hyde, C SW sec. 14-31-34w. M.I.M.

Sumner County

Craft & Wilson No. 1 Nevitt, NE NW NE sec. 36-32-2e. Stalnaker 2,223 ft.; K.C. L. 2,608 ft.; S.O. 2,772-83 ft.; U.R. 3,185 ft.

Helmerich & Payne et al No. 1 Elwell, NW NW NE sec. 18-34-1. Chat 3,867 ft.; S.D. 4,000 ft.

D. L. Husted et al No. 1 Evers, SE SE NE sec. 27-31-2. Set 12-in. csg. 412 ft.

Matthews & Derrington No. 1 Berry, NW NW SE sec. 14-35-1. Fsg. 2,978 ft.

Pryor & Lockhart et al No. 1 Knowles, SW cor. sec. 30-30-1. K.C. L. 3,858 ft.; Chat 3,499 ft. (cor.); drlg. 3,632 ft.

E. B. Shawver No. 1 Judd, SW SE NE sec. 3-34-2. Drlg. 400 ft.

Texas Co. No. 1 Reed, NE SE SE sec. 11-31-1w. Fsg. 564 ft.

Wilcox O. & G. et al No. 1 Hess, SE SE NW sec. 13-34-2w. Chat 4,120 ft.; Wilcox sd. 4,584 ft.; cg.; S.S.O.&W. in cores.

D. J. Wilson et al No. 1 Clark, 1,320 ft. from W and 25 ft. from S line of NW sec. 15-35-1w. Drlg. 4,244 ft.

Trego County

Central Commercial No. 1 Wagg, NW NW SE sec. 17-13-21w. K.C. L. 3,548 ft.; bld. 10 bbls. oil in 8 hrs. at 3,950 ft.; drlg. 4,170 ft.

J. J. Hall et al No. 1 Deines, SE SE SE sec. 12-13-24w. Drlg. 815 ft.

R. B. McNeely et al No. 1 Lemke, NW NW SW sec. 7-11-22w. Rotary rig.

Woodson County

N. C. Dunn No. 1 Dawson, C NW NE sec. 27-26-13. L. 1,505 ft.; T.D. 1,527 ft.; P.B. 1,200 ft.; H.F.O.; no test.

Foster et al No. 1 Timm, SE NW NE sec. 36-25-13. S.O. 602-07 ft.; set 5-in. csg. at 1,420 ft.

Lester et al No. 1 Weldie, NE NE SE sec. 17-25-14. S.D. 675 ft.

C. L. Sheedy No. 1 Abbott, NE NE SW sec. 16-25-14. Drlg. 900 ft.

C. L. Sheedy et al No. 1 Fuhlhage, NE NW SW sec. 27-25-14. Spudded.

Cotton County

English Drlg. Co. No. 1 Wilson, NW NW SE sec. 7-4s-11w. T. D. 1,514 ft.; S.D.

Harmon County

Lloalko Trust, Ltd. No. 1 Crosnoe, SE SE SW sec. 14-3n-25w. T.D. 2,263 ft.; S.D.

Jackson County

C. P. Burnham No. 1 Oliver, NW NW SE sec. 26-1-20w. Granite Wash 1,350 ft.; gas 500,000 ft.; T.D. 1,685 ft.; S.D.

John Dickson et al No. 1 W. B. Wright, NE NW SE sec. 19-1-19w. Drlg. 1,000 ft.

A. H. Jackman No. 1 fee, SW SW SW sec. 27-1s-24w. T.D. 2,685 ft.; fsg.

Pioneer Oil Co. No. 1 N. Rawls, SW NW NE sec. 26-1-20w. T.D. 26 ft.; S.D.

Universal Oil Co. No. 1 R. W. Briscoe NW SW NE sec. 36-1s-20w. T.D. 3,004 ft.

Jefferson County

A. T. Campbell No. 1 Trout, SE NE NE sec. 6-5s-7w. Sd. 1,525-57 ft.; T.D. 2,064 ft.; S.D.

Pearson et al No. 1 Douthitt, NE cor. sec. 24-6s-9w. R.U.R.

Johnston County

Equitable O. & G. Co. No. 1 Belisey, NE SW sec. 12-2s-4e. Arbuckle L. 1,552 ft.; drlg. 1,938 ft. in L.

Love County

Amerada Pet. Corp. No. 1-A Westheimer & Daube, SW SE SW sec. 27-6s-2e. T.D. 7,363 ft.; shot 93 times with perf. gun at 4,849-87 ft.; acidized, using 435-bbl. load; unable to recover load; S.D.; repairing swbg. machine.

J. B. Russell et al No. 1 Scott, SW SE SW sec. 29-8s-2e. T.D. 4,968 ft.; taking down tools.

Sinclair Prairie Oil Co. No. 1 Stockton, SE SE SW sec. 26-6s-2w. T.D. 8,556 ft.; rmg. core hole.

Marshall County

Helmerich & Payne No. 1 Taliaferro, NW SE SW sec. 26-5s-5e. Rig.

Pushmataha County

C. W. Whitehead et al No. 1 Misser, SE SW SW sec. 35-3s-18e. T.A.; T.D. 3,560 ft.

Stephens County

W. G. Endicott et al No. 1 McFatridge, NW NW SW sec. 11-3s-9w. T.D. 1,363 ft.; S.D. for csg.

T. H. McCasland No. 1 J. C. Parker, NE NE SW sec. 2-1n-6w. S.D. 2,515 ft.; S.D.

Tillman County

G. Birnheim No. 1 Tate, NE NE NW sec. 16-1s-19w. Location.

Gulf Oil Corp. et al No. 1 McWilliams, NW SW SW sec. 15-3s-17w. Rig.

Gulf Oil Corp. No. 1 Wearmouth, SE NW SE sec. 31-1s-18w. T.D. 4,533 ft.; S.D.

Johnson, Young & Mitchell No. 1 Donahoe, SW NW NW sec. 7-4s-17w. Drlg. 1,368 ft.

Shirley, Clum et al No. 1 Moricle, NW NW SE sec. 16-4s-14w. Spudded.

D. S. Smith No. 1-A Hammill, NE NE NW NW sec. 6-5s-15w. T.D. 1,125 ft.; S.D.

OKLAHOMA

Week Ending May 30

NORTHERN OKLAHOMA

Beckham County

Jo-Gail Drlg. Co. No. 1 Gilliland, C NE NE sec. 33-8-26w. Cellar.

Cleveland County

Hall-Briscoe, Inc., No. 1 Fant, SW SW NE sec. 27-10-2w. S.D. at 7,511 ft.

Asa Lee Mayes, Inc., No. 1 Parsons, SW SW SE sec. 30-9-1. T.D. 3,510 ft.; tools moved out, may make new contract.

Coal County

Shell Pet. Corp. No. 3 Hill, SE SE NW sec. 30-3-10. Hunton 5,280 ft.; Sylvan 5,355 ft.; Viola 5,448 ft.; S.O. 5,640-57 sd. 6,275 ft.; T.D. 6,457 ft.; circulating.

Garfield County

Herndon Drlg. Co. etal No. 1 Branson, SW SW SE sec. 23-24-3w. Drlg. 4,780 ft.

W. J. Sherry et al No. 1 Haken, NW NW SW sec. 32-20-10w. Miss. L. 5,960 ft.; whipstock 5,839 ft.; T.D. 6,276 ft.; to deepen.

Stanolind O. & G. Co. et al No. 1 Brunken, SW SW NE sec. 32-23-4w. Top Dense 5,915 ft.; Dolomite 5,935 ft.; first Wilcox 5,975 ft.; second Wilcox 6,033 ft.; at 6,084 ft. swbd. 101 bbls. oil and 1,200 ft. wtr.; 72-hr. accumulation; drlg. 6,096 ft.

Garvin County

Charles E. Carter et al No. 1 Wood, NW SW SE sec. 5-4-3. O.W.D.D.; sd. 2,973 ft.; Hunton 3,000 ft.; T.D. 3,005 ft.; to set csg.

McElreath & Suggett No. 1 Lasater, SE SE SW sec. 2-2-1w. Spudded.

Grady County

John Graham et al No. 1 Castleberry, SW SE NW sec. 8-5-7w. Moving in.

Hughes County

Blackwell O. & G. Co. No. 1 Long, SE NE NW sec. 29-9-9. Sand 1,215-35 ft.; T.D. 1,297 ft.; U.R.

M. H. Halsey No. 1-A Eustep, NW NW SW sec. 11-8-9. Wapanucka 3,428 ft.; Cromwell 3,452 ft.; T.D. 3,454 ft.; 2 bailers wtr. an hr.; P.B. and shot 3,030-45 ft.; est. 10,000,000 ft. of gas; P.B. to 3,412 ft.; re-shot.

George Orr et al No. 1 Morgan, NE SE SW sec. 6-7-9. Cellar and pits.

Phillips Pet. Co. No. 1 Eberle, NE NE SW sec. 12-5-9. Wapanucka 3,887 ft.; Cromwell 4,368 ft.; Mayes 5,160 ft.; Woodford 5,230 ft.; Hunton 5,432 ft.; Sylvan 5,435 ft.; drlg. 5,460 ft.

Sinclair Prairie Oil Co. et al No. 1 Wilkly, SW cor. sec. 23-9-8. Calvin 1,505 ft.; drlg. 1,967 ft.

Sivalls et al No. 1 Montgomery, NW SW NW sec. 7-9-9. Booch 2,950 ft.; Gilcrease 3,100 ft.; base Gilcrease 3,245 ft.; rmg.

Kay County

W. O. Allen No. 1 Fulton, SE cor. sec. 18-27-4. Drlg. 1,185 ft.

Kiowa County

Atlantic Oil Producing Co. No. 1 Ta-Home, NE NW NE sec. 24-7-16w. Drlg. 1,243 ft.

W. C. Adams et al No. 2-A Stone, C SE SE NE sec. 34-7-17w. T.D. 1,193 ft.; machine moved out.

Beeler & Klein No. 1 Parrish, SE SE NW sec. 3-6-15w. R.U.

E. A. De Bolt et al No. 1 Burnett, NW SE NE sec. 30-7-20w. Location.

Joe Hooser No. 1 Sonamaker, SE SW SW sec. 24-7-21w. Drlg. 725 ft.

Le Flore County

McCraw et al No. 1 Tidwell, C NW SE sec. 17-3-22. Set 10-in. csg. 1,560 ft.; T. D. 1,750 ft.; U.R.

Lincoln County

Amerada Petroleum Corp. et al No. 1 Zimmerman, SW SW NE sec. 10-12-5. Drlg. 2,655 ft.

Mid-Continent Pet. Corp. and Texas Co. No. 1 Hillman, SW SE NE sec. 29-13-6. R.U.R.

Logan County

W. N. Anthony and H. G. Marshall No. 1 Fruin-Eckman, SE SE SW sec. 4-16-1. T.D. 5,285 ft.; P.B. 5,181 ft.; swdg. pipe.

McClain County

Arab Pet. Corp. No. 1 Autry, NW cor. sec. 16-7-3w. T.D. 8,775 ft.; cmtd. cavings.

McCurtain County

Louis Sikes No. 1 Mitchell, C NW SW sec. 12-9s-26. Spudded and S.D. for 30 days.

McIntosh County

S. E. Dieckman No. 1 K. McIntosh, SE cor. sec. 4-12-17. Sd. 130 ft.; S.W.

Indian Ty. Ill. Oil Co. No. 1 Tancred, 1,050 ft. S and 390 ft. E of C sec. 9-9-14. Wilcox 4,535 ft.; T.D. 4,536 ft.; P.B. 2,731 ft.; shot at 2,704-30 ft.

Noble County

Continental Oil Co. No. 1 Pruitt, NW SE SW sec. 19-20-1w. Oswego 4,388 ft.; Viola 4,972 ft.; T.D. 5,142 ft.; P.B. 5,115 ft.; acidized; est. 4 bbls. oil, 30 bbls. wtr. daily; D.&A.

Stanolind O. & G. Co. and Amerada Pet. Corp. No. 1 Gillham, NE SE SE sec. 14-22-1. Rig.

Okfuskee County

Amerada Pet. Corp. and Stanolind O. & G. Co. No. 1 Wells, SW SW NW sec. 7-11-7. Hunton 4,167 ft.; Wilcox 4,454 ft.; T.D. 4,459 ft.; Halliburton test; no results.

Champlin Ref. Co. No. 1 Thompson, SW SW NW sec. 7-13-8. T.D. 1,147 ft.; fsg.

Oklahoma County

I. D. O'Shaughnessy, Inc. No. 1 Berlowitz, SE SW NE sec. 9-12-3w. Drlg. plug.

H. R. Hollenback et al No. 1 Cooper, NW NW NE sec. 15-11-1. Oswego, 5,435 ft. Hunton 5,867 ft.; Sylvan 5,998 ft.; Viola 6,093 ft.; Simpson 6,133 ft.; first Wilcox 6,232 ft.; second Wilcox 6,340-60 ft.; S.D. 6,375 ft.

Osage County

Champlin Ref. Co. No. 1 Osage, SW SW NE sec. 35-25-6. H.F.W. 2,930-35 ft.; T.D.; D.&A.

Elfred Beck No. 1 Osage, SE SE NE sec. 16-23-7. H.F.W. 2,615-40 ft.; S.D. 2,640 ft.; D.&A.

Gray & Folson No. 1 Osage, SW SW NE sec. 33-25-7. Drlg. 750 ft.

Midco Oil Corp. et al No. 1 Osage, NW NW SE sec. 11-23-6. Bartlesville 2,725-2,824 ft.; S.S.O.; fighting cave 2,863 ft.; T.D.

Stoner Bros. No. 1 Osage, NW NE SW sec. 18-22-8. R.U.S.T.

Payne County

Amerada Pet. Corp. and Stanolind O. & G. Co. No. 1 Pratt, SE cor. sec. 29-19-5. Drlg. 2,275 ft.

Denver Producing & Ref. Co. et al No. 1 Pratt, NW cor. sec. 20-18-3. Drlg. 3,566

Pontotoc County

Sandback et al No. 1 Sands, NE NE NE sec. 20-3-5. Drlg. 770 ft.

Southard & Miller No. 1 Wilson, NW SE SW sec. 26-4-5. Spudded and S.D.

Pottawatomie County

J. L. Shaw No. 1 Illinois Life, NW SE NW sec. 1-4-5. Drlg. 1,590 ft.

Seminole County

Ark Royalty Co. No. 1 Kiker, SE SE NE sec. 9-10-7. Spudded and S.D.

Felmlee & Nichaelson No. 1 Belford, SE NW NE sec. 15-9-8. Sd. 1,460-1,505 ft.; S.O.&G.; S.D. 1,680 ft.

Tom Phillips & Kinrow Drlg. Co. No. 1 Cheparney, SE SE NW sec. 7-6-7. Rig.

Washita County

L. P. McWhirter No. 1 fee, SW cor. sec. 34-8n-19w. T.D. 1,465 ft.; S.D.

SOUTHERN OKLAHOMA

Atoka County

D. Malarnee et al No. 2-A DOK ranch, SE cor. sec. 35-2s-13e. O.W.D.D.; drlg. 3,276 ft.

Phelps & Coats et al No. 1 Fidelity Life Ins. Co., SE SW NW sec. 23-1s-12. Drlg. 583 ft.

Prairie Investment Co. No. 1 A. Cobb, SW NE NW sec. 19-3s-11e. R.U.

Riverland Oil Co. No. 1 Jones, SW SW NE sec. 4-3s-9e. Hunton 1,517 ft.; Sylvan 1,573 ft.; Viola 1,762 ft.; drlg. 2,136 ft.

Carter County

Carter Oil Co. No. 1 Carter-Williams, SW NE SW sec. 27-2s-3w. T.D. 3,105 ft.; flowed 3,309 bbls. first 24 hrs.; shut in.

Carter Oil Co. et al No. 1 Leon Voorhees, C SE SW sec. 34-5s-2w. Drlg. 5,742 ft.

W. E. Hammond No. 1 J. Rile, SW SE SE sec. 8-5s-1e. Drlg. 285 ft.

Texas Co. No. 1 Cathey, SE NE NE sec. 6-5s-1w. T.D. 4,191 ft.; pumping 20 bbls. daily, may deepen.

Cotton County

English Drlg. Co. No. 1 Wilson, NW NW SE sec. 7-4s-11w. T. D. 1,514 ft.; S.D.

Harmon County

Lloalko Trust, Ltd. No. 1 Crosnoe, SE SE SW sec. 14-3n-25w. T.D. 2,263 ft.; S.D.

Jackson County

C. P. Burnham No. 1 Oliver, NW NW SE sec. 26-1-20w. Granite Wash 1,350 ft.; gas 500,000 ft.; T.D. 1,685 ft.; S.D.

John Dickson et al No. 1 W. B. Wright, NE NW SE sec. 19-1-19w. Drlg. 1,000 ft.

A. H. Jackman No. 1 fee, SW SW SW sec. 27-1s-24w. T.D. 2,685 ft.; fsg.

Pioneer Oil Co. No. 1 N. Rawls, SW NW NE sec. 26-1-20w. T.D. 26 ft.; S.D.

Universal Oil Co. No. 1 R. W. Briscoe NW SW NE sec. 36-1s-20w. T.D. 3,004 ft.

Jefferson County

A. T. Campbell No. 1 Trout, SE NE NE sec. 6-5s-7w. Sd. 1,525-57 ft.; T.D. 2,064 ft.; S.D.

Pearson et al No. 1 Douthitt, NE cor. sec. 24-6s-9w. R.U.R.

Johnston County

Equitable O. & G. Co. No. 1 Belisey, NE SW sec. 12-2s-4e. Arbuckle L. 1,552 ft.; drlg. 1,938 ft. in L.

Love County

Amerada Pet. Corp. No. 1-A Westheimer & Daube, SW SE SW sec. 27-6s-2e. T.D. 7,363 ft.; shot 93 times with perf. gun at 4,849-87 ft.; acidized, using 435-bbl. load; unable to recover load; S.D.; repairing swbg. machine.

J. B. Russell et al No. 1 Scott, SW SE SW sec. 29-8s-2e. T.D. 4,968 ft.; taking down tools.

Sinclair Prairie Oil Co. No. 1 Stockton, SE SE SW sec. 26-6s-2w. T.D. 8,556 ft.; rmg. core hole.

Marshall County

Helmerich & Payne No. 1 Taliaferro, NW SE SW sec. 26-5s-5e. Rig.

Pushmataha County

C. W. Whitehead et al No. 1 Misser, SE SW SW sec. 35-3s-18e. T.A.; T.D. 3,560 ft.

Stephens County

W. G. Endicott et al No. 1 McFatridge, NW NW SW sec. 11-3s-9w. T.D. 1,363 ft.; S.D. for csg.

T. H. McCasland No. 1 J. C. Parker, NE NE SW sec. 2-1n-6w. S.D. 2,515 ft.; S.D.

Tillman County

G. Birnheim No. 1 Tate, NE NE NW sec. 16-1s-19w. Location.

Gulf Oil Corp. et al No. 1 McWilliams, NW SW SW sec. 15-3s-17w. Rig.

Gulf Oil Corp. No. 1 Wearmouth, SE NW SE sec. 31-1s-18w. T.D. 4,533 ft.; S.D.

Johnson, Young & Mitchell No. 1 Donahoe, SW NW NW sec. 7-4s-17w. Drlg. 1,368 ft.

Shirley, Clum et al No. 1 Moricle, NW NW SE sec. 16-4s-14w. Spudded.

D. S. Smith No. 1-A Hammill, NE NE NW NW sec. 6-5s-15w. T.D. 1,125 ft.; S.D.

ARKANSAS

Arkansas County

Ark. O. & G. Co. No. 3 Fischer, 250 ft. S, 200 ft. E. NW cor. NE NW sec. 6-4w. Rig; S.D.; W.O.

Bradley County

Phillips Pet. Co. No. 1 C. H. Murphy et al, NW cor. NW NW sec. 12-17-11. R.U.

Calhoun County

Ben G. Barnett No. 1 Freeman Smith, SE cor. sec. 36-15-14. Set 10-in. 1,600 ft.; M.I big rig, 2,746 ft.

T. R. Brown et al No. 1 Calion Lbr. Co., C S½ SE SW sec. 22-15-15. R.U.

Clark County

Boris Tripanoff, Tr., No. 1 W. Gibbons, sec. 27-8-18. Prep. to set csg. 557 ft.

Columbia County

J. C. Buckbee, Tr., No. 1 Wilson, 330 ft. N and E, C sec. 17-17-18. Cg. 3,750 ft.

Crawford County

Carter Oil Co. and Donald Trumbo No. 1 Cradduck, C NW NE sec. 3-11n-30w. Prep. set csg. 1,230 ft.

Dallas County

Kel-Mac Lease & Royalty Co. No. 2 R. Owens, NW cor. NW SW sec. 26-10-16. S.D. 1,924 ft.

Hempstead County

Dixie Drlg. Co. No. 1 Wheatley, 330 ft. S. 30 ft. E. NW cor. SW NE sec. 14-11-26. R.U. and W.O.O.

Murdock-May & Easton No. 1 Conway Est., 330 ft. N and E, SW cor. NW SW sec. 17-14-24. Set 12½-in. 80 ft.; drlg. 7 ft. Anhy. 1,952-59 ft.

LaFayette County

Earl F. Fox No. 2 Coleman Bros., NE NE sec. 30-16-24. S.D. 3,760 ft.

Erwin & Leach No. 3 Bodcaw Lbr. Co., 330 ft. S and E, NW cor. sec. 20-16-13. D.S. stuck 7,561 ft.

A. M. Neeley No. 1 Meek, 330 ft. S and W, NE cor. NE NW sec. 35-19-28. Loc.

Little River County

Roberts et al No. 1 Hall, sec. 22-13-29. O.W.D.D.; S.D. 1,950 ft.

Loanoke County

Frank F. Silver et al No. 1 Joe Chambers, C NE sec. 17-2n-7w. Drlg. 1,470 ft.

Miller County

Deep Rock Oil Corp. No. 1 Williams, NW cor. SW NW sec. 6-16-25. Set 12½-in. 450 ft.

Odell Hinson No. 1 Montana Realty Co., NE cor. NW NW sec. 3-17-28. Set 12½-in. csg. 238 ft.; S.D.O.

J. W. Jones et al No. 1 J. H. Bush, sec. 2-19-27. Loc. abd.

King Oil Corp. No. 1 G. W. Crank, SW NE sec. 19-26-25. S.D.; W.O. 3,906 ft.; King Oil Corp. No. 1 Mann, NW cor. NW SE sec. 2-16-26. Set 10-in. 200 ft.

M. L. Luckett No. 1 Beck, sec. 34-15-26. Drlg. 2,946 ft.

L. H. Mahon et al No. 1 Miller Land & Timber Co., SW cor. SE sec. 29-18-27. S.D. 1,845 ft.

Ouachita County

Carnes & Harrell No. 1 Dunn & Robinson, new loc., 440 ft. S, 440 ft. E, NW cor. NW SE sec. 7-12-19. Set 13⅜-in. csg. 180 ft.; cg. 1,081 ft.

Edgar Johnson et al No. 1 J. M. Farris, 660 ft. N and 330 ft. E, SW cor. NE sec. 26-15-15. Loc. abd.

Lion Oil Ref. Co. No. 1 Reynolds, C E½ SE NE sec. 28-15-15. R.U.

L. L. McDonald No. 1 Langley, 330 ft. N and E, SW cor. NE SW sec. 19-15-15. S.D. 2,116 ft.

Phillips Pet. Co. No. 1 Arnold, 660 ft. S and 330 ft. E, NW cor. NE sec. 27-15-15. R.U.

Phillips Pet. Co. No. 1 Cheatham, 660 ft. N and 330 ft. E, SW cor. NE sec. 27-15-15. Drlg.

Phillips No 1 E. Gette, 660 ft. N and 330 ft. E, SW cor. NE sec. 27-15-15. R.U.

Phillips Pet. Co. No. 1 L. Harriss, 660 ft. N and 330 ft. W, SE cor. SW NE sec. 28-15-15. Drlg. 556 ft.

Phillips Pet. Co. No. 1 Murphy, C E½ NE NE sec. 28-15-15. Loc. abd.

John Pugh No. 1-A P. T. Hildebrand, 660 ft. N and 330 ft. W, SE cor. sec. 35-15-15. W.O.C. 674 ft.

J. D. Reynolds No. 1 McKenzie, 204 ft. S, 300 ft. W, NE cor. SE SW sec. 36-15-16. Fsg. for cable tools 1,979 ft.

Rhoda Armstrong No. 1 M. Bragg, SE cor. SE NW sec. 25-13-18. Loc.

Standard Oil Co. of La. No. 3-B Reynolds, 660 ft. N and 330 ft. W, SE cor. NW SW sec. 27-15-15. Drlg. 2,556 ft.

O. F. Whittaker, Tr., No. 1 S. Howard, 600 ft. E and 150 ft. N, SW cor. NW NE sec. 20-12-16. S.D. 1,840 ft.

Union County

Ark. Southern Oil Co. No. 1 F. B. Laney, sec. 30-19-16. S.D. 175 ft.

Ark.-Southern Oil Co. No. 1 M. H. Simmons, NW cor. NW NE sec. 15-18-13. Drk.

J. C. Bucbee No. 1 Ezzell, SW cor. NE NW sec. 13-17-15. S.W. sd. 4,070 ft.

J. E. Crosbie, Inc., No. 1 G. Morris, 340 ft. N and 260 ft. E, SW cor. NW SW sec. 7-17-13. Loc.

J. E. Crosbie, Inc., No. 5 M. M. Sullivant, 393 ft. N and 341 ft. W, SE cor. SE NW sec. 12-17-14. Set 10-in. 180 ft.; comp.; pmpg. 330 B.P.D., 10% wtr.; T.D. 3,169 ft.

Kinnebrow & Simpson No. 1 L. Adams, SW cor. NE NE sec. 12-17-14. Cmtd. 7-in. 3,156 ft.; had 3-ft. sd. 3,166 ft.

Marine Oil Co. No. 1 Simmons, 250 ft. S and W, NE cor. SE NW sec. 10-18-13. Drk.

McCresslen Oil Co. No. 2 D. Norman, NE cor. NE SE sec. 3-18-13. W.O. jack to pump, 3,556 ft.

LOUISIANA

NORTH LOUISIANA PROVEN

Caddo-Rodessa

American Lib. O. Co. No. 1 Norton, 330 ft. S and 330 ft. W, NE cor. sec. 17-23-16. R.U.

W. D. Ambrose No. 1 Phillips, C Lot 7, Blk. 47, sec. 23-23-16. Loc.

Ark.-La. Gas Co. No. 13 Rodessa O. & L. Co., 2,330 ft. N and 1,136 ft. W, SE cor. sec. 22-23-16. Drlg. 2,593 ft.

Ark.-La. Gas Co. No. 15 Rodessa Oil & Land Co., NE cor. SW NW sec. 23-23-16. Comp.; 50 P.B.H.; T.D. 6,001 ft.

Ark.-La. Gas Co. No. 16 Rodessa Oil & Land Co., SE cor. NE sec. 22-23-16. Set 10-in. 3,316 ft.; T.D. 6,012 ft.; W.O.C.

Ark.-La. Gas Co. No. 17 Rodessa O. & L. Co., SE cor. SW NW sec. 23-23-16. Drlg. 4,275 ft.

Ark.-La. Gas Co. No. 18 Rodessa O. & L. Co., NW cor. sec. 23-23-16. Drlg. 2,298 ft.

Ark.-La. Gas Co. No. 19 Rodessa O. & L. Co., NE cor. NE SE sec. 22-23-16. R.U.

Ark.-La. Gas Co. No. 20 Rodessa O. & L. Co., NW cor. SW sec. 23-23-16. Loc.

Blackwell O. & G. Co. No. 1 Nugent, SW cor. NE SE sec. 8-23-15. Cmtd. 7-in. 5,916 ft.; T.D. 6,107 ft.; comp.; 10 B.P.H.; 3/16-in. ch.

S. P. Borden No. 2 K.C.S., NW cor. SW sec. 23-23-16. Drlg. 1,575 ft.

Canadian Oil Co. No. 1 Comegys, SE cor. sec. 10-23-16. Drlg. 4,653 ft.

Danciger O. & R. Co. No. 1 Francis heirs, C Lot 2, Blk. 10, sec. 23-23-16. Cmtd. 7-in. csg.; T.D. 6,012 ft.; comp.; 7 B.P.H.; ¼-in. ch.

Duncan & Woods No. 1 Andrews, Lot 5, Blk. 21, sec. 23-23-16. Cmtd. 7-in. 6,006 ft.; T.D. 6,022 ft.; comp.; 8 bbls. dist. per hr.; ½-in. ch.

Danciger O. & R. Co., Inc., No. 2 Nugent, sec. 23-23-16. Loc.

J. Edward Jones No. 1 Gibson, SW cor. SE SW sec. 22-23-16. Set 16-in. 250 ft.; cmtd. 7-in. 6,055 ft.; T.D. 6,065 ft.

M. H. Marr et al No. 2 Peak, SW cor. SE sec. 11-23-16. Drlg. 5,770 ft.

R. W. Norton No. 3 Atkins Unit, 175 ft. S, 1,286 ft. W, NE cor. sec. 16-23-16. Drlg. 3,041 ft.

R. W. Norton No. 2 Elder, 330 ft. S and W, NE cor. sec. 23-23-16. Drlg. 2,306 ft.

R. W. Norton No. 2 Fosque Unit, SW cor. sec. 20-23-16. Comp.; 20 B.P.H.; ¼-in. ch.; T.D. 5,998 ft.

R. W. Norton No. 3 Foscue Unit, NE cor. sec. 29-23-16. Drlg. 4,140 ft.

R. W. Norton No. 4 Foscue Unit, SE cor. sec. 20-23-16. Drlg. 4,807 ft.

R. W. Norton No. 5-A Caddo Lv. Bd., 2,600 ft. N and 600 ft. W, C sec. 28-23-16. R.U.

R. W. Norton No. 6-A Caddo Lv. Bd., 2,600 ft. N and 660 ft. W, C sec. 28-23-16. Drlg. 2,736 ft.

R. W. Norton No. 2 N. S. Spearman, 330 ft. S and 660 ft. E, NW cor. SW sec. 18-23-15. Drlg. 1,917 ft.

R. W. Norton No. 4 Tyson heirs, 2,943 ft. N and 2,313 ft. E, SW cor. sec. 13-23-16. Drlg. 5,348 ft.

Phillips Pet. Co. No. 1 Adams, NW cor. sec. 17-23-15. Set 16-in. 252 ft.; cmtd. 7-in. 6,032 ft.; T.D. 6,055 ft.

Phillips Pet. Co. No. 2 Adams, NW cor. NW NW sec. 17-23-15. Cg. 5,755 ft.

Phillips Pet. Co. No. 5 Norton Est., SW cor. NW sec. 17-23-15. Set 16-in.; drlg. sh. 3,613 ft.

Phillips Pet. Co. No. 1 Robinson, C E½ NE SE sec. 18-23-15. P.B. from 6,038 ft. to 3,350 ft.

H. W. Snowden No. 1 Phillips, C Lot 11, Blk. 36, sec. 23-23-16. Set 10-in. 3,057 ft.; drlg. 3,603 ft.

Standard No. 4 Caldwell, NW cor. SW SE sec. 12-23-16. Drlg. 5,923 ft.

Standard No. 15 Lawton, SW cor. SW NW sec. 14-23-16. Set 7-in. 5,993 ft.; comp.; 85 B.P.H.; T.D. 6,010 ft.

Standard No. 16 Lawton, NE cor. SW NW sec. 14-23-16. Set 7-in. 5,919 ft.; T.D. 5,997 ft.

Standard No. 17 Lawton, 100 ft. N and 764 ft. W, SE cor. NW sec. 14-23-16. Loc.

Standard No. 6 Otwell, NE cor. SE SE sec. 15-23-16. Comp.; 152 B.P.H.; 1¾-in. tbg. ch.; T.D. 6,001 ft.

Standard No. 7 Otwell, SW cor. SE SE sec. 15-23-16. Loc.

Standard No. 8 Otwell, NW cor. SE SE sec. 15-23-16. Loc.

Standard No. 4-A M. L. Pitts, 330 ft. N and W, SE sec. 11-23-16. Set 12½-in. at 265 ft.; drlg. 3,098 ft.

Tri-State O. & G. Co. No. 1 Hall, C Lot 12, Blk. 29, sec. 23-23-16. Drlg. 475 ft.

Tri-State O. & G. Co. No. 1 F. L. Westbrook, C Lot 6, Blk. 12, sec. 23-23-16. Drlg. 5,314 ft.

United No. 1-574 fee, SE cor. sec. 16-23-16. Loc.

United No. 3 Brewer Unit, 655 ft. N and 656 ft. E, SW cor. sec. 21-23-16. Drlg. 5,773 ft.

United No. 4 Brewer Unit, NE cor. 55 ac., sec. 29-23-16. Drlg. 5,292 ft.

United No. 6 Brewer Unit, 1,094 ft. N and 569 ft. E, SW cor. sec. 22-23-16. Loc.

United No. 2 Harris, 326 ft. W, 330 ft. N, SE cor. SE SE sec. 15-23-16. Cg. 5,912 ft.

United No. 3 Harris, NE cor. sec. 15-23-16. Set 13-in. at 313 ft.

United Gas Pub. Ser. Co. No. 1 McCoy, NE cor. sec. 16-23-16. Cg. 5,850 ft.

United No. 2 Mitchell, SW cor. of lse., sec. 20-23-16. Loc.

United No. 5 M. L. Pitts, 312 ft. N and 658 ft. W, SE cor. NW SE sec. 13-23-16. Drlg. 5,817 ft.

United No. 6 M. L. Pitts, 320 ft. S and 658 ft. W, NE cor. SW SE sec. 13-23-16. Tstg.; T.D. 6,040 ft.

United No. 7 Pitts, NE cor. SW SW sec. 13-23-16. Drlg. 4,137 ft.

United No. 8 Pitts, SW cor. of E 28 ac., NE SW sec. 15-23-16. R.U.

United No. 3 N. S. Spearman, SW cor. SE NW sec. 18-23-15. Drlg. 4,582 ft.

United Gas Pub. Ser. Co. No. 3 Thomas Unit, Lots 4 and 5, Blk. 5, Townsite, sec. 23-23-16. Set 7-in. 5,995 ft.; prep. to perf. csg. 5,960 ft.; T.D. 6,016 ft.

United Gas Pub. Ser. Co. No. 5 Thomas Unit, NW cor. SE NW sec. 23-23-16. Swbg. to test 6,033 ft.; T.D.

United No. 10 N. S. Tyson Unit, SW cor. SE SE sec. 11-23-16. Drlg. 5,288 ft.

United Gas Pub. Ser. Co. No. 17 Rodessa Oil & Land Co., NW cor. sec. 22-23-16. Set 13⅜-in. 313 ft.; comp.; 49 B.P.H.; ½-in. tbg. ch.; T.D. 6,010 ft.

United Gas Pub. Ser. Co. No. 18 Rodessa Oil & Land Co., SW cor. NE SE sec. 15-23-16. Comp.; 58 B.P.H.; ½-in. tbg. ch.; T.D. 5,995 ft.

United Gas Pub. Ser. Co. No. 19 Rodessa Oil & Land Co., SE cor. NE SE sec. 15-23-16. Comp.; 42 B.P.H.; ½-in. tbg. ch.; T.D. 6,002 ft.

United Gas Pub. Ser. Co. No. 20 Rodessa Oil & Land Co., SE cor. SE NE. Comp.; 48 B.P.H.; ½-in. tbg. ch.; T.D. 5,996 ft.

United Gas Pub. Ser. Co. No. 22 Rodessa Oil & Land Co., NW cor. sec. 15-23-16. Drlg. 5,638 ft.

Sabine Parish—Zwolle

Ellis Prod. Co. No. 1 Williams, 330 ft. S and W, NE cor. SE NE sec. 32-7-11 Tested dry; S.D.; W.O. 2,806 ft.

United Gas Pub. Ser. Co. No. 2 U. S. Govt., 660 ft. S and 1,166 ft. E, NW cor. of 54 ac., sec. 29-23-16. Loc.

Grady Vaughn No. 2 Hunter-Derryberry, sec. 14-23-16. O.W.D.D.; cable tools from 6,014 ft.

N. LOUISIANA WILDCATS

Bienville Parish

Rondeau et al No 1 Locke, 150 ft. S and 1,495 ft. W, NE cor. sec. 9-15-10. Drk.

A. C. Walters No. 1 D. B. Davis, C SE SW sec. 3-16-9w. Drk.

Bossier Parish

Geo. H. Bringhurst et al No. 1 Buckley, NE SW sec. 36-21-13. S.D. 2,309 ft.

Producers O. & G. Co. No. 1 Webb, C W½ SW sec. 22-17-12. R.U.

Tidwell et al No. 1 Nattin, 200 ft. S and W, C sec. 15-22-14. Set 10-in. 66 ft.; S.D. 1,650 ft.

United Gas Pub. Ser. Co. No. 1-D H. L. Skannal, 660 ft. S, 561 ft. W, NE cor. SE sec. 22-17-12. Drlg. 1,158 ft.

Caddo Parish

Calatex O. & G. Co. No. 2 Scott, 1,038 ft. W, 807 ft. N, SE cor. sec. 5-16-16. Drlg. 50 ft.

Falcon Oil Co. No. 15 Deckson, NW SE sec. 27-20-15. P.B. 3,343 ft.; old T.D. 3,349 ft.

Hillman et al No. 2 Noel Est., 530 ft. S and 330 ft. W, NE cor. sec. 12-20-16. Cg. 2,145 ft.

Kenwood Pool, Ins., No. 1 W. K. Henderson, 1,980 ft. S and 200 ft. E, NW cor. sec. 15-19-15. Set 12½-in. 74 ft.; drlg. 1,440 ft.

Bill Morefield et al No. 1 Stokely, 745 ft. S and 100 ft. E, C sec. 5-20-16. R.U.

Morris & Wooley No. 1 Pender, NW cor. SW sec. 11-20-15. Set 10-in. 60 ft.; set 6-in. 2,207 ft.

Persian Oil Co. No. 1 J. E. Cupples, 500 ft. S and 350 ft. W, NE cor. sec. 24-16-13. Drk.

Press & Lambert No. 1 fee, SW cor. NE SE sec. 10-20-15. Set 6-in. 2,172 ft.; T. D. 2,204 ft.

Pyramid O. & G. Co. No. 1-A S. R. Wheeler, 1,320 ft. S, 1,500 ft. W, NE cor. sec. 16-18-16. P.B. from 5,210 ft. to 4,856 ft.; cmtd. 7-in. 4,804 ft.; tstg.

Simplex Oil Co. No. 9-A Glassell, 660 ft. N and 200 ft. W, SE cor. NE SW sec. 10-20-15. Loc.

Sport Oil Corp. No. 1-D Muslow, SE cor. sec. 5-20-15. Set 9⅝-in.; cg. 3,395 ft.

Caldwell Parish

Critchett & Woods No. 1 Kyles, NE cor. SW NE sec. 18-11-3e. P.B. to 1,300 ft., old T.D. 1,740 ft.; W.O.O.

Critchett & Woods No. 2 La. Cen. Lbr. Co., NW cor. NW SE sec. 18-11-3e. Drlg. 1,362 ft.

Catahoula Parish

J. Ray McDermott No. 1 La. Cen. Lbr. Co., 400 ft. S and E, NW cor. sec. 15-10-5e. Drk.

Claiborne Parish

E. T. Oakes No. 1 H. W. Patton, NE cor. sec. 1-20-5. Jkd. old hole 4,242 ft.; skd. rig; set 10¾-in. 1,400 ft.; drlg. 3,195 ft.

United Gas Public Service Co. No. 2 Durfett, 660 ft. N and 1,980 ft. E, SW cor. sec. 31-20-5. Gas odors in cores 6,713-25 ft.; sl. sh. oil 4,097-4,110 ft. and 4,110-23 ft.; drlg. sd. 7,126 ft.

Concordia Parish

Zeni Oil Co. No. 1 Young, 1,300 ft. W, 100 ft. N, SE cor. sec. 28-6n-8e. S.D. 1,130 ft.

De Soto Parish

J. E. Carlson No. 1 A. P. Garland, 250 ft. S and E, NW cor. SW sec. 7-14-14. Drk.

J. G. Carson No. 1 C. J. McMichael, sec. 26-13-15. Drk.

A. G. Halbach et al No. 1 Staton, 150 ft. N and E, SW cor. SE sec. 29-12-14. D.&A. 4,003 ft.

E. A. Stiller No. 1 Jenkins, 400 ft. S and 200 ft. W, NE cor. NW NE sec. 35-12-12. Set 5 3/16-in. 2,459 ft.; T.D. 2,469 ft.

Tarbud Oil Co. No. 1 Caddo Realty Co., SW cor. sec. 2-13-16. S.G. 2,874 ft.; to deepen.

Franklin Parish

S. C. Jensen No. 1 Bailey, 660 ft. N and W, C sec. 12-11-6e. S.D. 1,430 ft.

Grant Parish

Acadian Prod. Corp. No. 8 Swope, 150 ft. S and E. NW cor SE SE sec. 18-9-1e. Drlg. 450 ft.

Alexander et al No. 1 Maxwell, sec. 9-9-1e. W.O.S.R. 1,538 ft.

W. B. Rhineck, Tr., No. 1 Swope, SW cor. NW SW sec. 16-9-1e. Cmtd. 6-in. 1,577 ft.; T.D. 1,580 ft.; W.O.C.

Taw Oil Co. No. 2 Bradford, sec. 16-9-1e. Drlg. 1,558 ft.

Taw Oil Co. No. 1 Bradford, NE cor. NW sec. 16-9-1e. Set 10-in. 60 ft.; S.D.

Tri-State Lsg. & Dev. Co. No. 1 Ethridge, 600 ft. S and 300 ft. W, NE cor. sec. 19-7-3w. R.U.

La Salle Parish

Montague Oil Co. No. 7-A Zenonia Lbr. Co., NE cor. sec. 10-9-1e. Tstd. S.W. and W.O. 1,520 ft.

Lincoln Parish

Caldwell Land & Timber Co. No. 1 J. K. Hammons, 330 ft. S and E, NW cor. SE SW sec. 30-18-1w. S.D. 665 ft.

Herman L. Brown et al No. 1 S. Gardner, 230 ft. N, 380 ft. E, SW cor. NW NE sec. 10-17-4w. Schlumberger s. sd. 5,664-71 ft. and 5,678-5,701 ft.; W.O.W. 5,026 ft.

Morehouse Parish

J. B. Collins et al No. 1 E. M. Clarke, SE NE sec. 10-20-7e. Drk.

John E. Farrell No. 18 State, 198 ft. S and 1,753 ft. E, NW cor. sec. 9-21-4e. Comp.; 5,000,000 ft. gas; 890 lbs. R.P.; T.D. 2,135 ft.

John E. Farrell No. 19 State, 2,009 ft. N and 2,016 ft. E, SW cor. sec. 4-21-4e. Comp.; 2,500,000 ft. gas; 940 lbs. R.P.; T.D. 2,135 ft.

John E. Farrell No. 21 State, 1,507 ft. N and 2,121 ft. E, SW cor. sec. 33-22-4e. Loc.

John E. Farrell No. 22 State, 1,646 ft. S and 346 ft. E, NW cor. sec. 33-22-4e. Loc.

John E. Farrell No. 23 State, 1,341 ft. N and 3,547 ft. E, NW cor. sec. 29-22-4e. Loc.

John E. Farrell No. 24 State, 1,493 ft. S and 2,453 ft. E, NW cor. sec. 29-22-4e. Loc.

United No. 37 Crossett, 1,321 ft. N and 1,324 ft. W, SE cor. sec. 15-21-4e. Comp.; 8,000,000 ft. gas; T.D. 2,196 ft.

United Gas Pub. Ser. Co. No. 24 Tensas, 1,330 ft. W and 664 ft. N, SE cor. sec. 3-21-4e. R.U.

United Gas Pub. Ser. Co. No. 25 Tensas, 1,413 ft. W and 1,242 ft. S, NE cor. sec. 29-22-4e. Drk.

United No. 17 Tensas, 1,320 ft. N and 1,317 ft. W, SE cor. sec. 26-22-4e. Drk.

United No. 21 Tensas, sec. 10-21-4e. Cmtd. 6⅝-in. 2,070 ft.; T.D. 2,206 ft.; comp.; 6,000,000 ft. gas.

United No. 22 Tensas, 340 ft. W and 1,002 ft. N, SE cor. sec. 4-21-4e. Cmtd. 7-in. 2,047 ft.; T.D. 2,065 ft.

United No. 23 Tensas, 2,559 ft. W and 1,389 ft. S, NE cor. sec. 20-22-4e. Drlg. 809 ft.

United Gas Pub. Ser. Co. No. 26 Tensas, 1,994 ft. W and 1,101 ft. N, SE cor. sec. 4-21-4e. Loc.

Red River Parish

I. J. Allen No. 1 Franklin Realty Co., sec. 20-11-9. Set 12½-in. 110 ft.; drlg. 2,850 ft.

Byrd Explo. Co. No. 1 Edge, NE¼, SE¼, sec. 29-13-11. Prep. to test 2,479 ft.

Byrd Explo. Co. No. 1 Waller, 1,570 ft. N and 1,520 ft. W, SE cor. sec. 20-13-11. Recmtd. 8-in.; T.D. 860 ft.

W. J. Hunter et al No. 1 Long Bell Lbr. Co., NE NE sec. 19-13-9. Drlg. 1,460 ft.

T. G. Shaw No. 1 Teekell, SE cor. SE SW sec. 34-13-10. Set 10-in. 62 ft.; gas blowout 1,871 ft.; drlg. 2,580 ft.

Richland Parish

J. S. Morrisey No. 1 Jones, 1,293 ft. N, 636 ft. E, SW cor. sec. 15-18-7e. S.D. 1,705 ft.

Arthur Wray No. 1 Slocum, 2,436 ft. S, 560 ft. W, NE cor. sec. 10-17-6e. S.D. 1,676 ft.

Sabine Parish

I. J. Allen No. 1 Paul, sec. 24-9-14. R.U.

Circle W. Oil Co. No. 1 Cassell, 660 ft. E and 418 ft. S, C sec. 30-9-13. To acidize; 7-in. at 1,635 ft.; T.D. 1,778 ft.

M. C. Forsman No. 1 Patrick, NE SW sec. 21-9-13. Set 8-in. 75 ft.; drlg. 975 ft.

F. G. Cox No. 1 Whitney Corp., C NW NE sec. 8-9-13. Drlg. 3,100 ft.

Pearl Oil Co. No. 6 Crawford, C SE SE sec. 20-9-13. Drlg. 2,650 ft.

J. R. Keen No. 1 Long Bell, 276 ft. N and 288 ft. W, SE cor. NE SW sec. 4-22-36. Drlg. 615 ft.

A. C. Scott No. 1 Bowman Hicks, 660 ft. S and 330 ft. E, NW cor. NW SW sec. 23-9-13. Drlg. 1,210 ft.

Claude H. Smith No. 1 Whitney Corp., 330 ft. S, 990 ft. W, NE cor. sec. 19-10-13. Set 7-in. 1,514 ft.; S.D. 3,080 ft.

A. H. Tarver No. 2 Baker, NW cor. NE sec. 36-8-12. D.S stuck 5,200 ft.

Lee Whitehurst No. 2 Latham, sec. 19-8-13. Set 7-in. 1,593 ft.; acid trtd. 2,128 ft.; comp.; pumping 50 B.P.D.

Tensas Parish

H. M. Jones et al No. 1 Chicago Mill & Lbr. Co., NE cor. sec. 30-13-10e. D.S.T. 761-83 ft.; est. 1,000,000 ft. gas; set csg.

Union Parish

Boucher & Pace No. 1 Frost-Johnson, NE NE sec. 27-21-1e. Top Travis Peak 3,880 ft.; cg. 4,250 ft.

John E. Farrell No. 20 State, 988 ft. S and 4,261 ft. E, NW cor. sec. 4-21-4e. R.U.

Southern Carbon Co. No. 9 Grayling, 1,260 ft. N and 1,954 ft. W, SE cor. sec. 8-21-4e. Drlg. 1,900 ft.

Southern Carbon Co. No. 10 Grayling, 1,261 ft. N and 660 ft. E, SW cor. sec. 9-21-4e. Drk.

United Carbon Co. No. 4 Stovall, 1,698 ft. E and 2,201 ft. N, SW cor. sec. 33-21-4e. R.U.

Vernon Parish

Llano Del Rio Co. No. 2 Gulf Lbr. Co., 1,285 ft. S, 1,000 ft. W, NE cor. sec. 7-1n-9w. S.D. 3,240 ft.

Webster Parish

J. H. Edwards No. 1 Hooper, 330 ft. S and E, NW cor. SW sec. 8-17-9. T.A. 3,016 ft.; S.D.

J. P. Evans et al No. 1 T. Crichton, NE SE sec. 35-18-9. Cmtd. 6⅝-in. 5,363 ft.; comp.; 26,700,000 ft. wet gas; 1¾-in. ch.; T.D. 5,587 ft.

Ohio Oil Co. No. 1 R. L. Holloway, 660 ft. S, 760 ft. W, C sec. 33-21-10. Drlg 7,797 ft.

SOUTH LOUISIANA FIELDS

Bayou Mallet—Acadia Parish

Superior O. & G. Co. No. 3 George Bradley, sec. 52-7s-1e. T.D. 6,395 ft.; 7-in. csg. at 6,388 ft.

Black Bayou—Cameron Parish

Shell Pet. Corp. No. 32 Watkins, sec. 7-12s-12w. Driving piling.

Shell Pet. Corp. No. 33 Watkins, 65 ft. S cor. sec. 18-12s-12w. T.D. 4,838 ft.; 7-in. csg. 4,696 ft.; I.P. 637 B.P.D.; ¼-in. ch.; T.P. 642 lbs.; C.P. 700 lbs.

Caillou Island—Terrebonne Parish

Texas Co. No. 34 State, sec. 34-23s-22e. T.D. 5,935 ft.; 7⅝-in. csg. at 5,891 ft.; I.P. 1,203 B.P.D.; ⅜-in. ch.; T.P. 980 lbs.

Texas Co. No. 36 State. Drlg. wtr. sd. 5,690 ft.

Texas Co. No. 40 Caillou Isle, sec. 20-23s-20e. T.D. 3,921 ft.; I.P. 123 B.P.D.; ⅜-in. ch.; T.P. 575 lbs.

Cameron Meadows—Cameron Parish

Burton Sutton Oil Co. No. 13 School Land sec. 16-14s-13w. Drlg. sh. 5,431 ft.

Burton Sutton No. 14 School Land, sec. 16-14s-13w. Drk.

Burton-Sutton No. 3-A School Land, sec. 16-14s-13w. T.D. 3,951 ft.; fsg.

Humble-Magnolia No. 16 Cameron Meadows. T.D. 5,326 ft.; perforated from 4,720-42 ft.; P.B. to 4,242 ft.; I.P. 150 B.P.D.

Humble-Magnolia No. 17 Cameron Meadows, sec. 21-14s-13w. Drk.

Cheneyville—Rapides Parish

Texas Co. No. 1 Weihl, sec. 53-1s-2e. Drlg. sh. 5,514 ft.

Choctaw Dome—Iberville Parish

Standard Oil Co. No. 8 Myrtle Grove Wilburt, sec. 52-9s-11e. T.D. 5,828 ft.; P.B to 2,450 ft. and sdtkd.; drlg rock 4,652 ft.

Darrow—Ascension Parish

Humble O. & R. Co. No. 12 Community, sec. 30-10s-2e. T.D. 5,836 ft.; prep. to make D.S.T.

Dog Lake—Terrebonne Parish

Texas Co. No. 3 State, sec. 5-22s-16e. T.D. 7,613 ft.; P.B. and sdtkd. at 5,010 ft.; P.B. to 4,985 ft.; W.O.C.

Four Isle—Terrebonne Parish

Texas Co. No. 5 State, sec. 24-21s-16e. Abd. 6,602 ft.

Gillis—Calcasieu Parish

R. Dobbs et al No. 1 Buhler, sec. 11-9s-8w. Drlg. gravel 583 ft.

Fohs Oil Co. No. 2 Ida Powers, sec. 14-9s-8w. T.D. 7,066 ft.; set 7-in. csg. on bottom; prep. to perf.

Fohs Oil Co. No. 11 O. H. Castle, sec. 13-9s-8w. Drlg. sh. 6,596 ft.

Texas Co. No. 9 Nickerson fee, sec. 13-9s-8w. Drlg. sh. 6,170 ft.

Texas Co. No. 10 Nickerson fee, sec. 12-9s-8w. Drk.

Union Sulphur Co. No. 1 J. A. Bel estate T.D. 7,683 ft.; P.B. to 6,522 ft.; sdtkd. and drlg. sh. 6,732 ft.

Union Sulphur Co. No. 1 G. S. Cole, sec. 12-9s-8w. T.D. 6,655 ft.; P.B. 3,816 ft.; drld. to 5,280 ft.; tstd. dry gas; fsg. for screen.

Union Sulphur Co. No. 1 Green Acres, sec. 11-9s-8w. T.D. 7,659 ft.; P.B. to 4,450 ft.

Union Sulphur Co. No. 8 Powell Lbr. Co. Drk.

Union Sulphur Co. No. 15 State, sec. 12-9s-8w. Drk.

Union Sulphur Co. No. 16 State, sec. 11-9s-8w. Drlg. sh. and L. 6,176 ft.

Hackberry—Cameron Parish

Calcasieu Oil Co. No. 6 Hanzen, sec. 14-12s-10w. T.D. 5,793 ft.; cmtd. 7-in. csg.; I.P. 200 B.P.D.

Gulf Ref. Co. No. 20 Irwin, sec. 12-12s-10w. T.D. 6,846 ft.; prep. to sdtk.

Stanolind O. & G. Co. No. 16-A School Land, sec. 16-12s-12w. Drlg. sh. and L. 4,911 ft.

Stanolind O. & G. Co. No. 21-B Gulf Land, sec. 14-12s-10w. S.D. 6,963 ft.; top salt 6,948 ft.; P.B. and sdtkd.; drilled to 6,090 ft.; cg.

Stanolind O. & G. Co. No. 23-B Gulf Land, sec. 14-12s-10w. Drk.

Sutton Oil Co. No. 3 Duhon, sec. 22-12s-10w. T.D. 3,183 ft.; 7-in. csg. at 3,160 ft.; I.P. 336 B.P.D.; ½-in. ch.

Texas Co. No. 21 State, sec. 12-12s-10w. Drk.

Texas Co. No. 19-B State, sec. 13-12s-9w. T.D. 6,724 ft.; P.B. to 4,638 ft.; sdtkd.; drld. to 5,307 ft.; prep. to sdtk.

Jeanerette—St. Mary Parish

Herton Oil Co. No. 2 Banta, sec. 40-13s-9e. Drlg. sh. 7,478 ft.

Herton Oil Co. No. 4 Banta, sec. 40-13s-9e. T.D. 1,701 ft.; 10-in. csg. at 1,503 ft.

Herton Oil Co. No. 1 Carter, sec. 38-13s-9e. Cg. sd. and sh. 9,230 ft.

Jennings—Acadia Parish

Port City Oil Co. No. 18 Heywood, sec. 41-9s-2w. T.D. 2,060 ft.; 6-in. csg. at 1,970 ft.; I.P. 500 B.P.D.; ⅝-in. ch.; T. P. 150 lbs.

Shell Pet. Corp. No. 1 Conover, sec. 40-9s-2w. T.D. 7,450 ft.; fsg.

Stanolind O. & G. Co. No. 16 Houssiere-Latrielle, sec. 47-9s-2w. T.D. 7,052 ft.; fsg.

Lafitte—Jefferson Parish

Texas Co. No. 4 Lafitte, sec. 20-17s-24e. T.D. 9,270 ft.; fsg.

Texas Co. No. 4 Rigolettes Fur Co., sec. 29-17s-24e. Drlg. sh. and L. 7,977 ft.

Lake Barre—Terrebonne Parish

Texas Co. No. 37 Lake Barre State, Drlg. sh. 5,515 ft.

Texas Co. No. 40 State, sec. 36-21s-19e. Drlg. Anhydrite 2,622 ft.

Lake Hermitage—Plaquemines Parish

Gulf Oil Corp. No. 5 LaFourche Basin Levee Bd., sec. 11-18s-25e. Drlg. sd. 3,989 ft.

Leesville—LaFourche Parish

Delta Oil Co. No. 1 Constantine, sec. 34-21s-22e. T.D. 5,043 ft.; 9-min. D.S.T., 5,028-43 ft.; 50 lbs. pres.; started flowing oil; W.O.C.

Gulf Oil Corp. No. 10 Allen Land, sec. 21-21s-22e. Drlg. sd. and sh. 3,274 ft.

Lincoln Oil Co. No. 2 Constentine, sec. 27-21s-22e. T.D. 5,133 ft.; salt; P.B. 3,728 ft.; sdtkd.; drlg. sdy sh. 4,056 ft.

Texas Co. No. 47 Leesville, sec. 27-21s-22e. Cg. sd. 4,793 ft.

Texas Co. No. 48 Leesville, sec. 27-21s-22e. Drk.

Texas Co. No. 49 Leesville, sec. 22-21s-22e. Drlg. sh. 1,585 ft.

New Iberia—Iberia Parish

Canal Oil Co. No. 2 Sabatier, sec. 54-1s-7e. S.D. 3,180 ft.; in salt.

Kitos Oil Co. No. 2-A Sealey, sec. 56-12s-7e. T.D. 4,560 ft.; P.B. to 2,300 ft.; S.D.

Teche Oil Co. No. 1 Sanders, sec. 53-12s-7e. Abd. 957 ft.

Teche Oil Co. No. 1 Schwing, sec. 52-12s-7e. S.D. 4,030 ft.

Texas Co. No. 1 Smith, sec. 72-12s-7e. S.D. 6,700 ft.; oil sd.

Roanoke—Jefferson Davis Parish

Gulf Oil Corp. No. 2-B Anding, sec. 2-9s-4w. Drlg. sh. 7,797 ft.

Humble O. & R. Co. No. 4-B Devilbiss, sec. 11-9s-4w. S.D. 4,954 ft.

Shell Pet. Corp. No. 3 Carter, sec. 1-9s-4w. R.U.

Port Barre—St. Landry Parish

Pan American Prod. Co. No. 2 Colmier, sec. 4-6s-5e. T.D. 4,860 ft.; rmg.

Texas Co. No. 1 Futral, sec. 20-6s-5e. Drlg. sh. 5,970 ft.

Texas Co. No. 1 Lahaye, sec. 4-6s-5e. T.D. 4,455 ft.; P.B. 3,870 ft.

St. Martinville—St. Martin Parish

Continental Oil Co. No. 1 fee, sec. 18-11s-6e. T.D. 8,150 ft.; P.B. to 7,690 ft.; perf. from 7,675-87 ft.; tested S.W.; P.B. to 7,443 ft.

Sorrento—Ascension Parish

Sorrento Oil Co. No. 1 Bernard, sec. 9-10s-4e. Derrick.

Sulphur—Calcasieu Parish

Union Sulphur Co. No. 825 fee, sec. 29-9s-10w. Drlg. sd. 3,078 ft.

Union Sulphur Co. No. 828 fee, sec. 20-9s-10w. T.D. 3,358 ft.; 7-in. csg. at 3,334 ft.; W.O.C.

Union Sulphur Co. No. 830 fee, sec. 29-9s-10w. Drk.

Tepetate—Acadia Parish

Continental Oil Co. No. 1 Hugh Breckenridge, sec. 29-7s-2w. T.D. 8,306 ft.; 5-in. csg. on bottom; I.P. 250 bbls. in 19 hrs.; ¼-in. ch.; T.D. 1,200 lbs.; C.P. 1,325 lbs.

Continental Oil Co. No. 1 Doris Fruge, sec. 28-7s-2w. R.U.

Continental Oil Co. No. 3 Homeseekers, sec. 29-7s-2w. Drlg. sh. and L. 7,706 ft.

Continental Oil Co. No. 4 Homeseekers, sec. 39-7s-2w. Drlg. sh. 3,555 ft.

Continental Oil Co. No. 2 Ortego, sec. 28-7s-2w. Drlg. sh. and shells 7,054 ft.

Continental Oil Co. No. 2 L. L. Welch, sec. 28-7s-2w. Drlg. sh. 8,010 ft.

General Crude Oil Co. No. 1 Vincent, sec. 31-7s-2w. Drlg. sdy. sh. 9,181 ft.

Vinton—Calcasieu Parish

Vinton Pet. Co. No. 1 fee, sec. 34-10s-12w. Cg. sd. 3,051 ft.

White Castle—Iberville Parish

Shell Pet. Corp. No. 3 Shingle, 650 ft. S. 600 ft. E of NW cor. sec. 12-11s-12e. T.D. 5,763 ft.; P.B. 3,800 ft.; sidetracked; drlg. L. 4,615 ft.

S. LOUISIANA WILDCATS

Acadia Parish

Magnolia Pet. Co. No. 1 Homeseekers Dev. Co., sec. 54-10s-1w. Drlg. sd. 8,485 ft.

Allen Parish

Humble O. & R. Co. No. 2 Bell est., 933 ft. N and E of No. 1 Bell. M.I.R.

Cameron Parish

Magnolia Pet. Co. No. 1 Hebert, sec. 13-12s-9w. Drlg. sh. and L. 7,932 ft.

East Baton Rouge Parish

Cavalier Oil Co. No. 1 Vingnes, sec. 40-8s-2e. Digging pits.

Iberia Parish

Jefferson Lake Oil Co. No. 1 State, Twp. 12s-5e. T.D. 8,610 ft.; P.B. to 8,483 ft.; perf. from 8,460-66 ft.; P.B. to 8,183 ft.

Jefferson Lake Oil Co. No. 322 State Lake Piegneur. S.D. 5,690 ft.

Texas Co. No. 2 State, sec. 35-11s-8e. R.U.

Jefferson Davis Parish

Shell Pet. Corp. No. 1 Lacassan, sec. 20-11s-5w. T.D. 9,793 ft.; hole heaving.

Stanolind O. & G. Co. No. 1 C. E. Britt, sec. 15-10s-3w. R.U.

Strake Oil Corp. No. 1 Onezia Miller Est., sec. 7-9s-5w. Drlg. L. 4,010 ft.

Livingston Parish

Bunte O. & G. Co. No. 1 Addison Trust Co., sec. 7-7s-3e. Drk.

St. Bernard Parish

John Cartwright No. 1 Meraux Nunez, sec. 19-13s-12e. S.D. 995 ft.

St. James Parish

Shell Pet. Corp. No. 1 Colonial Sugar, sec. 5-12s-5e. Cg. sh. 7,451 ft.

St. Landry Parish

Limited Oil Co. No. 1 Miller Est., sec. 47-8s-4e. Drlg. sh. 8,545 ft.

St. Martin Parish

Southern Oil (S. C. Yingling et al) No. 1 State, sec. 13-9s-8w. T.D. 3,172 ft.; tested S.W.; P.B. to 1,490 ft.; preparing to sidetrack.

Texas Co. No. 2 State, sec. 14-10s-9e. Drlg. sh. 4,920 ft.

Texas Co. No. 8 St. Martins Land, sec. 17-8s-7e. T.D. 8,213 ft.; D.S. stuck; shot off at 5,050 ft.; fishing.

S. C. Yingling et al No. 2 State, sec. 13-9s-8w. Driving piling.

Terrebonne Parish

J. B. Beck et al No. 1 Realty Operators, sec. 103-17s-17e. R.U.

Humble O. & R. Co. No. 1 Continental Land & Fur Co., sec. 30-17s-14e. Drlg. sd. 1,446 ft.

Vermillion Parish

Continental Oil Co. No. 1 O. C. Hebert, sec. 20-12s-3e. Drlg. sh. 8,333 ft.

Del-Shell Exploration Co. No. 1 Landry heirs, sec. 1-13s-4e. Drlg. sh. 923 ft.

Louisiana Land & Expl. Co. No. 1 La. Fur Co., sec. 16-15-1e. Drk.

TEXAS

Week Ending May 30

GULF COAST FIELDS

Raccoon Bend—Austin County

Humble O. & R. Co. No. 3 McCasland, Wm. Smithson Sur. T.D. 1,154 ft.; 10-in. csg. 1,143 ft.; W.O.C.

Humble O. & R. Co. No. 10-X Hellmuth, Wm. Harvey Sur. T.D. 4,100 ft., 7-in. csg. at 4,045 ft.; I.P. 16 B.P.H.; ½-in. ch.; T.P. 70 lbs.; C.P. 430 lbs.

Hastings—Brazoria County

Humble O & R. Co. No. 3 Nelson, H.T.&B. Sur. Drlg. sh. 5,603 ft.

Stanolind O. & G. Co. No. 1 Brown, H.T. &B. Sur. T.D. 5,991 ft.; rng. screen and tstg.

Stanolind O. & G. Co. No. 3 Ford, A.C.H.& B. Sur. No. 1. Drk.

Stanolind O. & G. Co. No. 6 Shaw, H.T.&B. Sur. No. 36. R.U.

Stanolind O. & G. Co. No. 5 B. L. Turner, A.C.H.&B. Sur. No. 1. T.D. 6,078 ft.; 5-in. csg. 6,005 ft.; I.P. 430 bbls. in 21½ hrs.; ¼-in. ch.; T.P. 825 lbs.; C.P. 1,200 lbs.

Stanolind O. & G. Co. No. 6 Turner, A.C. H.&B. Sur. No. 1. 10¾-in. csg. at 1,855 ft.; W.O.C.

Stanolind O. & G. Co. No. 5 H. G. Williams, A.C.H.&B. Sur. Drlg. sd. and L. 1,439 ft.

Stanolind O. & G. Co. No. 4 Wooster, A. C.H.&B. Sur. No. 1. T.D. 6,060 ft.; 7-in. csg. at 6,000 ft.; I.P. 320 bbls. in 14 hrs.; ¼-in. ch.; T.P. 700 lbs.; C.P. 800 lbs.

Old Ocean—Brazoria County

Harrison & Abercrombie No. 1 Armstrong Plantation fee, Polly and Chance Sur. Rig up.

Manvel—Brazoria County

Texas Co. No. 22 Houston Oil Field Assn., A.C.H.&B. Sur. No. 1. T.D. 2,302 ft.; P.B. 1,880 ft.; sidetracking.

Texas Co. No. 2 Smith, H.T.&B. Sur. T.D. 4,060 ft.; 7-in. csg. on bottom.

Texas Co No. 23-B Belcher, H. N. Little. Sur. Drlg. sh. 5,396 ft.

Stratton Ridge—Brazoria County

Warner Oil Co. No. 3 Dannenbaum, J. D. Grace Sur. Cg. sh. 1,310 ft.

West Columbia—Brazoria

Texas Co. No. 13 Abrams, George Tennille Sur. Drlg. sdy. L. 1,369 ft.

Anahuac—Chambers County

Humble O. & R. Co. No. 5 Broussard & Hebert, H.&T.C. Sur. T.D. 7,150 ft.; P.B to 6,799 ft.; sdtkd. at 6,786 ft.; drlg. sh. at 6,890 ft.

Humble O. & R. Co. No. 13 Clark, H.&T.C. Sur. Drlg. sh. and sd. 7,040 ft.

Humble O. & R. Co. No. 3 Johnson, H.&T. C. Sur. T.D. 7,128 ft.; 7-in. csg. 7,024 ft.; I.P. 5 B.P.H.; ⅛-in. ch.; C.P. 250 lbs.

Humble O. & R. Co. No. 17 Middleton, H. T.&C. Sur. Drlg. sh. 2,870 ft.

Humble O. & R. Co. No. 18 Middleton, H. T.&C. Sur. Drlg. sh. 4,349 ft.

Humble O. & R. Co. No. 8 Tyrell, H.T.& C. Sur. T.D. 1,533 ft.; 10¾-in. csg. at 1,510 ft.

Humble O. & R. Co. No. 9 Tyrell, H.&T.C Sur. T.D. 7,082 ft.; 7-in. csg. at 7,041 ft.; I.P. 27 B.P.H.; ¼-in. ch.; T.P. 975 lbs.; C.P. 850 lbs.

Humble O. & R. Co. No. 10 White, James McGahey Sur. T.D. 7,090 ft.; 7-in. csg. at 7,064 ft.; I.P. 14 B.P.H.; ¼-in. ch.; T.P. 750 lbs.

Humble O. & R. Co. No. 11 White, James McGahey Sur. R.U.

Humble O. & R. Co. No. 1-B White, James McGahey Sur. Drlg. clay 58 ft.

Sun Oil Co. No. 15 White J. McGahey Sur. Drlg. sh. 3,480 ft.

Sun Oil Co. No. 17 White, James McGahey Sur. R.U.

Sun Oil Co. No. 18 White, J. McGahey Sur. Cg. sh. 6,050 ft.

Barbers Hill—Chambers County

Stanolind O. & G. Co.'s No. 29 Chambers Wm. Bloodgood Sur. Derrick.

Turtle Bay—Chambers County

Stanolind O. & G. Co. No. 2 State. T.D. 6,617 ft.; 7-in. csg. at 6,608 ft.

Big Creek—Fort Bend County

Gulf Oil Corp. No. 69 Davis, B. Young League. Drlg. sh. 3,358 ft.

Blue Ridge—Fort Bend County

Alamo Drlg. Co. No. 1 Blakely, E. Drew Sur. T.D. 4,098 ft.; 7-in. csg. at 4,069 ft.; W.O.C.

Ben Barnett No. 2 Blakely, E. Drew Sur. T.D. 2,160 ft.; swbg.

H. G. Frost et al No. 1 Robinson, H. Shropshire Sur. Drlg. sh. 3,080 ft.

Trans-State Oil Co. No. 4-B Blakely, E. Drew Sur. Drlg. gumbo 830 ft.

Orchard—Fort Bend County

Gulf Oil Corp. No. 46 Moore, Leo Burknapp Sur. Drlg. sh. 1,966 ft.

Gulf Oil Corp. No. 5-A Moore. Drlg. rock 1,562 ft.

Thompson—Fort Bend County

Naylor et al No. 8 Gehr, S. Kennedy Sur. S.D. 3,485 ft.

Sterling O. & R. Co. No. 1 F. I. Booth, H. Chrisman Sur. T.D. 5,407 ft.; 7-in. csg. at 5,320 ft.; washed in; no gauge.

High Island—Galveston County

Stanolind O. & G. Co. No. 5 B.&N.O., Fitzsimmons Sur. T.D. 6,477 ft.; P.B. 5,795 ft.; 7-in. csg. at 5,755 ft.; P.B. to 5,735 ft.; perf. 5,760-80 ft.; flowed 590 bbls. fluid, 50 per cent S.W.; P.B. 5,530 ft.; drld. to 5,765 ft.; tstd. 50% S.W.

Stanolind O. & G. Co. No. 56 Cade, N. Fitzsimmons Sur. Drlg. sh. and L. 4,888 ft.

Stanolind O. & G. Co. No. 1 Cooper, M. Dunman Sur. Drlg. L. 4,010 ft.

Stanolind Oil & Gas Co. No. 18-B Smith Royalty, M. Dunman Sur. T.D. 5,529 ft.; P.B. 3,650 ft.; sdtkd. at 4,022 ft.; drlg. sdy. L. at 4,365 ft.

Dickinson—Galveston County

Humble O. & R. Co. No. 3 Magale, J. S. Jones Sur. T.D. 2,012 ft.; 10¾-in. csg. at 2,006 ft.; W.O.C.

Humble O. & R. Co. No. 3-A Stewart, J. Sellers Sur. T.D. 227 ft.; 16-in. csg. at 218 ft.

Humble O. & R. Co. No. 3-B Bayou Dev. Co., J. Sellers Sur. Drlg. sd. 5,301 ft.

Ken Ben Oil Co. No. 1 Stewart, W. E. Wilson Sur. Cg. sh. 3,260 ft.

Stanolind O. & G. Co. No. 4 State, Tr. No. 3. S.D. 7,105 ft.

Stanolind O. & G. Co. No. 5 State, Tract 8. S.D. 8,560 ft.

Batson—Hardin County

Nimrod Prod. Co. No. 1 Butler, W. Donoho Sur. S.D. 3,482 ft.

Saratoga—Hardin County

John Deering No. 1 Teel, Thomas Gaines Sur. Drlg. sdy. sh. 5,905 ft.

Mykawa—Harris County

West Prod. Co. No. 9 Irwin, W. B. Walker Sur. T.D. 4,985 ft.; P.B. and sdtkd.; sh. 4,537 ft.; no report.

West Prod. Co. No. 1 Minnetex, Wm. Lovett Sur. Sh. 4,875 ft.; no report.

Pierce Junction—Harris County

Humble O. & R. Co. No. 4 Moody, J. Edwards Sur. Drlg. sh. 2,720 ft.

Rio Bravo Oil Co. No. 14-B Settegast, J. Kappman Sur. Drlg. sd. and sh. 3,575 ft.

Gulf Oil Corp. No. 4 Manchester. R.U.

South Houston—Harris County

Stanolind O. & G. Co. No. 1 M. Butz, H.T.&B. Sur. No. 6. Drlg. sdy. sh. and shells 773 ft.

Stanolind O. & G. Co. No. 1 Funk, Callahan & Vince Sur. T.D. 5,014 ft.; P.B. to 4,534 ft.; tstg.

Stanolind O. & G. Co. District No. 23, H. T.&B. Sur. No. 5. T.D. 4,775 ft.; conditioning mud.

Stanolind O. & G. Co. District 24, H.T.&B. Sur. No. 5. W.O.C. 72 ft.

Stanolind O. & G. Co. No. 3 First Natl. Bank, Callahan-Vince Sur. T.D. 1,398 ft.; 10¾-in. csg. 1,215 ft.

Stanolind O. & G. Co. No. 2 Schwartz, H. T.&B. Sur. Drlg. sh. and shell 3,675 ft.

Stanolind O. & G. Co. No. 1 C. J. Wyndelts, H.T.&B. Sur. No. 6. T.D. 1,230 ft.; 10¾-in. csg. at 1,220 ft.; W.O.C.

Tomball—Harris County

Amerada-Stanolind No. 3 Felber, E. Smith Sur. Drlg. sh. 1,300 ft.

Humble O. & R. Co. No. 5 Holderrieth, C. N. Pillot Sur. Drlg. sh. and L. 5,470 ft.

Humble O. & R. Co. No. 10-B Quilter, A. Senschall Sur. T.D. 5,559 ft.; 7-in. csg. at 5,551 ft.; I.P. 24 B.P.H.; ¼-in. ch.; T.P. 900 lbs.

Humble O. & R. Co. No. 1-B Tolliman, J. House Sur. T.D. 5,582 ft.; 7-in. csg. at 5,566 ft.; swbg.

Texas Co. No. 2 Sam Lewis, C. N. Pillot Sur. Drlg. sdy. sh. and L. 3,110 ft.

Amelia—Jefferson County

H. J. De Arman No. 1 First National Bank, F. Bergner Sur. 1-A. Rig up.

Humble O. & R. Co. No. 2 Guinn, C. Williams Sur. T.D. 6,773 ft.; setg. 7-in. csg.

Humble O. & R. Co. No. 1 Pinchback, C. Williams Sur. T.D. 6,772 ft.; run screen and tbg.

Glenn H. McCarthy, Inc., No. 1 Langham, H. Williams Sur. Spudded.

Big Hill—Jefferson County

Stanolind O. & G. Co. No. 3-A Pipkin and Davis, Wm. McFaddin Sur. T.D. 6,560 ft.; D.S. stuck.

Cleveland—Liberty County

Gulf Oil Corp. No. 15-C Cleveland, J. Pleasant Sur. Drlg. sh. 2,900 ft.

Hankamer—Liberty County

Gulf Oil Corp. No. 6 Crow and Jacobs, H.T.&C. Sur. No. 21. T.D. 5,380 ft.; P.B. to 3,675 ft.; drld. to 3,940 ft.; I.P. 82

B.P.D.; 3/16-in. ch.; T.P. 1,350 lbs.; C.P. 1,600 lbs.

Uscan Oil Co. No. 5 Exzell, Levi Borrow Sur. S.D. 5,390 ft.

Hardin—Liberty County

Atlantic Oil & Prod. Co. et al No. 1 Hardy, James Robinson Sur T.D. 8,110 ft.; P.B. 7,445 ft.; tstd. 10 joints of drlg. mud; no pres. through perf. csg. 7,432-45 ft.; T.A.

Jack Frazier et al No. 1 George Rearics, Amos Green Sur. Drlg. sh. 4,230 ft.

Hull—Liberty County

Gulf Oil Corp. No. 26 Morris-Phillips, O. Underton Sur. Drlg. sh. 4,516 ft.

Gulf Oil Corp. No. 112 Phoenix, J. Devore Sur. T.D. 8,615 ft.; I.P. 134 bbls. in 6 hrs.; ¾-in. ch.; T.P. 950 lbs.; C.P. 950 lbs.

Republic-Houston No. 160 Dolbear, J. Devore Sur. M.I.R.

Van Vleck—Matagorda County

Skelly Oil Co. No. 1 Langham, M. Cummings Sur. T.D. 7,505 ft.; perforated csg. from 7,460-75 ft.; swbg.

Skelly Oil Co. No. 2 Metzler, M. Cummins Sur. Moving in.

Skelly Oil Co. No. 1 G. Moore, I.&G.N. Sur. Drlg.

Skelly Oil Co. No. 1 Rugeley, I.&G.N. Sur. No. 267. T.D. 7,505 ft.; perf. csg. 7,480-99 ft.; flowing into pits.

Skelly Oil Co. No. 6-B Kobb, M. Cummings Sur. T.D. 7,502 ft.; 7⅝-in. csg. 7,502 ft.; I.P. 487 bbls. in 16 hrs.; ¾-in. ch.; T.P. 1,300 lbs.; C.P. 1,200 lbs.

Skelly Oil Co. No. 7-B Cobb, M. Cummings Sur. 13⅜-in. csg. at 1,402 ft.; T.D. 1,-415 ft.

Conroe—Montgomery County

Humble O. & R. Co. No. 54 Moore. T.D. 5,006 ft.; 7-in. csg. at 4,999 ft.; W.O.C.

South Gulf Corp. No. 1 Brent, D. W. Collins. Sur. Abd. 5,173 ft.

Splendora—Montgomery County

Tide Water Oil Co.-Darby Pet. Co. No. 1 W. C. and Ella Corbett, Josiah Blackman Sur. Drlg. sh. 6,100 ft.

Ace—Polk County

Dick Schwab No. 1-A Kirby West Lbr. Co. T.D. 4,816 ft.; 5-in. csg. on bottom; W.O.C.

Turnbull-Irwin et al No. 1 M. E. Roberts. M.I.M.

Livingston—Polk County

Hawkeye Pet. Co. No. 1 W. F. Harder, A. Viesca Sur. S.D. 520 ft.

Greta—Refugio County

Hewitt & Daugherty No. 24 Lambert, Hardwick Sur. Drlg. sh. 2,730 ft.

Refugio—Refugio County

D. & D. Oil Co. No. 3, Heard townsite. T.D. 4,330 ft.; fsg.

United Gas Co. No. 12 Fannie Heard, Refugio townsite. Drlg. sh. 3,730 ft.

United Gas Co. No. 18 Fox, Hughes & Brown Sur. Drlg. sh. 2,130 ft.

Tomoconnor—Refugio County

Quintana Pet. Co. No. 35-A Tom O'Connor, Swisher Sur. Drlg. sh. 5,530 ft.

Colette Creek—Victoria County

American Liberty Oil Co. No. 4 Pribil, R. Manchola Sur. R.U.

Keeran—Victoria County

Gulf Oil Corp. No. 8 Keeran, DeLeon Sur. S.D. in sh. and sd. 6,314 ft.

Placedo—Victoria County

Barnsdall-American Liberty No. 3 Pickering-Roos, J. M. Brownson Sur. Drk.

Barnsdall-Costa Oil Co. No. 4 Wheless, S.A.&M.G. Sur. No. 8. T.D. 4,770 ft.; 7-in. csg. at 4,760 ft.; I.P. 143 bbls. in 14 hrs.; 3/16-in. ch.; T.P. 485 lbs.; C.P. 420 lbs.

Barnsdall-Costa Oil Co. No. 2 Wright, S. A.&M.G. Sur. T.D. 4,764 ft.; 7-in. csg. at 4,750 ft.; I.P. 87 bbls. in 12 hrs.; 3/16-in. ch.; T.P. 380 lbs.

Benson & Jones No. 2 J. A. Janis, Wm. Rupley Sur. T.D. 4,744 ft.; 7-in. csg. on bottom; I.P. 100 lbs. in 12 hrs.; 3/16-in. ch.; T.P. 280 lbs.; C.P. 700 lbs.

Crown Central Oil Co. No. 2 Gebrover, J. M. Bronson Sur. T.D. 4,779 ft.; I.P. 258 bbls. in 11 hrs.; ¼-in. ch.

Harrison & Abercrombie No. 2 Sturdevant, S.A.&M.G. Sur. Drlg. L. 4,740 ft.

Smith-Gulf No. 1-B Henderson and Pickering, S.A.&M.G. Sur. Drlg. sh. 3,228 ft.

Clay Creek—Washington County

Sun Oil Co. No. 1 H. Lauter, N. Clay Sur. Drlg. sh. 5,209 ft.

Sun Oil Co. No. 7 H. Witt, J. F. Perry Sur. T.D. 1,313 ft.; drlg. plug.

Louise—Wharton County

Pure Oil Co. No. 1 Cochran, M.&C. Sur., sec. 29. T.D. 5,160 ft.; 7-in. csg. at 5,-120 ft.; W.O.C.

Pure Oil Co. No. 5 McIntyre, Morris-Cummins Sur. R.U.

Pickett Ridge—Wharton County

Adrian Moore No. 1 W. P. Wilbeck, J. Tele Forimer Sur. Drlg. sh. 2,700 ft.

Crown Central Pet. Co. No. 1 J. J. Rod, W.C.R.R. Sur. T.D. 4,608 ft.; 7-in. csg. at 4,596 ft.

Texas Co. No. 2 Marek, George Reynolds Sur. Drlg. sh. 6,058 ft.

Texas Co. No. 19-A Pierce, I.&G.N. Sur. No. 38. T.D. 4,709 ft.; 7-in. csg. 4,060 ft.; drlg. plug.

Texas Co. No 30-A Pierce, I.&G.N. Sur. T.D. 4,712 ft.; rng. 7-in. csg.

Texas Co. No. 21-A Pierce, I.&G.N. Sur. No. 38. Drlg. sh. and sd. 3,781 ft.

Withers—Wharton County

Texas Co. No. 1-B Pierce, E.T.R.R. Sur., Abst. No. 108. T.D. 6,511 ft.; P.B. to 5,-200 ft.; prep. to drill plug.

Texas Co. No. 6-C Pierce, J. Caldwell Sur. Drlg. sh. 5,018 ft.

Texas Co. No. 7-C Pierce, J. Caldwell Sur. Drlg. sh. and L. 3,741 ft.

GULF COAST WILDCATS

Austin County

W. H. Mitchell et al No. 1 F. Fenner, J. Fitzgibbons Sur. Drk.

Brazoria County

Gulf Oil Corp. No. 1 Fairfield, A. Robinson Sur. T.D. 8,398 ft.; P.B. and sdtkd. 6,259 ft.; drld. 6,277 ft.; cmtd. back to 6,243 ft.; W.O.C.

Strake Oil Corp. et al No. 1 D. K. Poole, J. W. Hardin Sur. T.D. 6,731 ft.; fsg.

Texas Co. No. 3 Freeport Sulphur Co., C. Arcola Sur. T.D. 4,734 ft.; rmg. to run 9⅝-in. csg.

Texas Gulf Prod. Co. No. 1 Sparks. S.D. 7,526 ft.

Calhoun County

Continental Oil Co. No. 1 T. Vandenberg, sec. 12, Blk. H. 20-in. csg. at 200 ft.; W.O.C.

Fayette County

Ben G. Barnett No. 1 McKinnon, A. Zumwalt Sur. S.D. 3,505 ft.

Shell Pet. Corp. No. 1 Maco Stewart. Spillman Sur. Drk.

Grimes County

Crook Bros. No. 1 W. W. and J. C. Greir. Drlg. sh. 2,730 ft.

Hardin County

S. Hindman No. 1 Howth, A. J. Cotton Sur. S.D. 4,359 ft.

David B. MacDaniel No. 1 Nona Mills, E. E. Manvel Sur. S.D. 8,000 ft.

Harris County

Amerada Pet. Corp. et al No. 1 Dopslout C.W.R.R. Sur., Blk. 1, sec. 2. Drlg. sh. 7,479 ft.

Bunte O. & G. Co. No. 1 Lobit et al. Benjamin Barrow Sur. Drk.

Zeni Oil Co. No. 1 W. A. Perkins, A. Sherrell Sur. Spudded.

Jefferson County

Magnolia Pet. Co. No. 1 Funches, sec. 16, H.T.&B. Sur. Drlg. 8,758 ft.

McSpadden et al No. 1 Burrell estate. Drlg. sh. 506 ft.

Shell Pet. Corp. No. 1 Carpenter, M. E. Piveto Sur. T.D. 1,075 ft.; nippling up.

Sun Oil Co. No. 1 Herbert & Broussard. B. Blackman Sur., Abst. No. 2. T.D. 8,-707 ft.; milled through csg. at 7,625 ft.; S.D.

Matagorda County

John Deering No. 1 Estelle, Tone and Jameson Sur. T.D. 6,868 ft.; shot csg. 3,700 ft.

Helmerich & Payne No. 1 Hawkins, D. McCarthy Sur. T.D. 3,750 ft.; tstd. S.W.; abd.

Sun Oil Co. No. 1 Craig, Thomas Williams. Sur. T.D. 6,326 ft.; P.B. 5,850 ft.; perf. csg. 5,340-95 ft.; swbd. dry; perf. csg. from 5,240-95 ft.; prep. to test.

Montgomery County

W. O. Bilraski et al No. 1 J. W. Wood, Wm. Weir Sur. Drk.

Walter Blumenthal No. 1 Delta Land & Timber Co., J. Beuhn Sur. Drlg. sh. 3,010 ft.

Orange County

Tide Water Oil Co. No. 1 E. N. Brown, Mary Latham Sur. Rig up.

Polk County

Dick Schwab No. 1-A Kirby Lbr. Co., T. A. Sublett Sur. T.D. 4,815 ft.; tstd. 400-ft. oil; 450 lbs. of pres. on 9-min. D.S.T.; 4,792-4,815 ft.; 5-in. csg. 4,816 ft.

San Jacinto County

J. A. Deering No. 1 Randolph, V. Flores Sur. R.U.

Tyler County

McArthur & Mixon No. 1 D. D. Kountz, J. A. Honkins Sur. Drk.

Wharton County

Pure Oil Co. No. 1 Paige, James Pirie Sur. T.D. 9,200 ft.; perf. 7,680-7,700 ft.; cutting 6⅝-in. csg.; swbd. drlg. mud showing very small amount of gas.

Smith & McDannald No. 1-A Priesmeyer, Charles Riley Sur. Drlg. sh. 3,106 ft.

Sterling O. & R. Co. No. 1 Genzer-Jonathan Scott Sur. S.D. 6,875 ft.

S. W. TEXAS WILDCATS

Aransas County

Buckingham Oil Co. No. 1 McCampbell, sec. 41-42, James Arida Sur. T.D. 7,501 ft.; recovered 6,200-ft. pipe; tstg.

Atascosa County

Atascosa Trust No. 1 Domsch, 160 ft. S line, 200 ft. E line, 152-ac. lease, J. T Russell Sur. 1,222. T.D. 3,519 ft.; set csg.; swbg. oil show.

Bastrop County

Marts & Beavens No. 1 Hartford-Jennings. Drlg. 150 ft.

Bee County

J. F. Haworth No. 1 Copeland, 330 ft. N line, 2,100 ft. E line, O. Marshall Sur. T.D. 4,252 ft.; 7-in. csg. at 3,523 ft.; perf. 3,460-69 ft.; made 1,500,000 ft. gas; 11/64-in. ch.; killed well and cmtd. perf.

Howoth & Singer No. 1 Voss, 990 ft. NW line, 330 ft. SW line, S. May Sur. Loc.

Luling Oil & Gas Co. No. 2-A Ruhman, 600 ft. S and 16 ft. W No. 1-A. Drlg. 1,950 ft.

Marine Oil Co. No. 1 Ray, 360 ft. E line, 330 ft. N line, 40-ac. tr., Anna Birks Sur. S.D. 4,410 ft.

Nichols & Quinn No. 1 Scott, Blk. 7, J. Molina Sur., Uranga grant. Loc.

Bexar County

Nick Morosis No. 1 T. O. de Ruiz, F. Rolen Sur. Drlg. 450 ft.

Fred Thorman No. 1 Sahm, Peter B. Hayes Sur. Drlg. 1,050 ft.

Woodward & Hardy No. 1 DeVilbiss, J. W. DeVilbiss Sur. Drlg. 577 ft.

Brooks County

California Co. No. 1 B. Garcia, 465 ft. N and W lines lse., B. Garcia tr., Salnias Sur. Cg. 7,200 ft.

Caldwell County

W. D. Jennings No. 1 McMahon, 68-ac. tr., Pinchback Sur. T.D. 2,343 ft.; washing in.

Cameron County

W. W. Ely No. 1 Port Isabel Irrigation Co., Blk. 17, Shares 29, 30 and 31, P. I. I. Co. Subd. Loc.

Duval County

Atlantic Oil Prod. Co. and Darby Pet. Corp. No. 1-F Welder, 2,310 ft. N and E lines, Sur. 552. D.&A. at 3,100 ft.

Conservative Oil Co. No. 1, D.C.R.C. Sur. 51. R.U.

Gifford Oil Co. No. 1 Roach, Sur. 200. Ready to spud.

Frank Gravis No. 1 C. K. Gravis, 1,650 ft. SE line, 990 ft. SW line, Sur. 250. T.D. 5,187 ft.; fsg.

Kepley Prod. Co. No. 1 Sevier, 330 ft. S line, 1,320 ft. E line, Sur. 71. T.D. 3,-410 ft.; P.B. 3,333 ft.; S.D.

J. J. O'Hern No. 1 Carrillo, Sur. 492. Loc.

Randon Oil Co. No. 1 Central Securities. R.U.

Rio Bravo Oil Co. No. 1 Peters, 330 ft. S and E lines lse., Sur. 397. D.&A. 2,898 ft.

Rogers & Rogers No. 1 Pena, 3,337 ft. SW line, 1,306 ft. NW line, R. S. de Pena plat. M.I.M.

Santa Clara Oil Co. (Atkins & O'Neil) No. 1 W. Serna, 330 ft. S and E lines, sec. 521. D.&A. 3,922 ft.

Texas Co. and Ohio Fuel Co. No. 2-B, D.C.R.C. Sur. 193. R.U.

Windsor Oil Co. No. 2 Peters, Sur. 33. R.U.

Edwards County

Paul Teas No. 1 Stewart, C SE¼ sec. 2, G.C.&S.F. Sur. S.D. 5,270 ft.

Guadalupe County

J. E. Clark No. 1 Anderson, Green De Witte Sur. Drlg. 2,013 ft.

J. E. Clark No. 1 Williams, DeWitte Sur. T.D. 2,524 ft.; P.B. and comp. in chalk.

Hidalgo County

Gerald O. & G. Co. No. 1 Nelson Mortgage Co., Blk. 38, Lot A, LaDonna Tr. T.D. 6,612 ft.; rng. electrical cg. test.

Gulf States Oil Co. No. 3 John Engleman, Lot 3, Blk. 70. T.D. 6,812 ft.; sh.; 7-in. csg. at 6,764 ft.; P.B. to 6,700 ft.; to test through perf. 6,688-99 ft.

Helen K. Maxwell No. 1 Hidalgo Wtr. Dist. No. 2, Lot 11, Blk. 20, Alamo Land & Sugar Co. Subd., Alamo Tr. Perf. 650-56 ft.; bailing Wtr. S.O.

Quintana Petroleum Co. No. 1 John C. Engleman, Lot 10, Blk. 94, Las Mestanas grant. Std. 3,883 ft.

Dayle Smith No. 1 Fairbanks & Young, Blk. 44, Porc. 46. Cg. 1,856 ft.

Jim Hogg County

J. J. Cosner No. 1 Vela hrs., Sh. 1, Blk. 5, Clark & Cowden Subd., El Peyote gr. Loc.

Magnolia Pet. Co. No. 1 Magnolia-Holbien, Sur. 35, Arriba grant. Drlg. wtr. well.

Theo. Hicks et al No. 1 Kohler, C W⅛ sec. 9, Novacitas grant. Loc.

Knode et al No. 1 Saunders, Sh. 3, Sur. 17, Lasc Animas grant. Drlg. sd. and sh. 2,784 ft.

Jim Wells County

Edwin M. Jones No. 1 Robt. Adams, 446 ft. S and W lines, Blk. 47, Waldron Oil & Gas Subd., Adams ranch. Loc.

R. A. Graddy No. 1 Bennett, 330 ft. N and W lines, Lot 87, sec. 76. Set sur. csg.; W.O.C.

Gist & Graddy No. 1 Owens, 660 ft. N line, midway E and W lines, Sur. 151. Spudded and S.D.

Karnes County

R. L. Barnett No. 1 fee, NE cor. 568-ac. tract. M.I.M.

DeGraffe & Reels No. 1 Cochran, 460 ft. E line, 160 ft. S line, McConnell League. Spudded in.

Kerr County

Auld & Evans No. 1 Heffner, 660 ft. N line, 330 ft. E line, sec. 13. Std. 2,096 ft.

LaSalle County

Davenport & Talbott No. 1 Watkins, 1,-610 ft. S line, 330 ft. E line, Sur. 108. Drlg. 3,129 ft.

Paul Mexder No. 1 Reed, sec. 136. Fee. 2,790 ft.

W. H. Vernon No. 1 Las Abias ranch, 150 ft. N line, midway E and W lines, sec. 726. Loc.

Live Oak County

W. A. Brooks No. 1 Terrill, 1,000 ft. NE R.R., 1,500 ft. S line lse., Juan Houligan Sur. T.D. 1,080 ft.; S.D.

Dirks Bros. No. 1 Geo. West Est., 1,361 ft. SE line, 340 ft. NE line, 80-ac. tract. Cg. 3,490 ft.

R. H. Feltner No. 1 J. T. Carter, 1,847 ft. NW line, 350 ft. NE line, 120-ac. tract, sec. 319. T.D. 3,466 ft.; drlg. in sdtrk. drld. to 3,340 ft.; S.D.

J. J. McRoberts No. 1 Mahoney, 3,100 ft. SW Junction Three Rivers, Tilden Highway and Thomas Henry Sur. lines, 150 ft. N. Set sur. csg. 40 ft.; W.O.C.

Windsor Oil Co. No. 1 B. E. Stolte, con. tr., Wm. Kundy 3,690-ac. blk. Drk.

Milam County

J. C. Kilgore et al No. 1 W. R. Newton, James Reed Sur. Spudding in.

McMullen County

John F. Camp. No. 3 Byrne, 100-ac. tr., B. Odem Sur. Drlg. 500 ft.

Climax Oil Co. No. 1 Lark, 150 ft. S and W lines, Blk. 96, Scrugham Sur. Loc.

R. J. Hill No. 1 Richardson, Sur. 158. Set sur. csg.; T.D. 1,600 ft.; S.D.

Rainer Oil Co. No. 1 Hagist, 330 ft. S and W lines, SW¼, SE¼, Sur. 25. M.I.M.

Reliance Oil & Roy. Co. and Santa Clara Oil Co. No. 1 Shiner, 330 ft. N line, 150 ft. E line, NW¼, W½, sec. 80, Shumway Subd. Drlg. 1,600 ft.

Nueces County

V. L. Blanchard No. 1 T. H. Isensee, 330 ft. N and E lines, Blk. 3, R. Schaffer Lands Subd. Spudding.

W. D. Hines No. 1 Flato, NW cor. Driscoll townsite. S.D. 5,072 ft.

M. F. Hurlburt No. 1 Phillips, sec. 8, Flour Bluff Garden Tracts. T.D. 6,635 ft.; made 9-min. D.S.T. from 6,608-35 ft.; W.P. 230 lbs.; recovered 7 fourbles fresh wtr., oily taste.

O. W. Killam No. 1 Ellick, 330 ft. N and E lines tr., sec. 109, Paul Subd. Set csg. 3,822 ft.; saturated sd. from 3,892-98 ft.; S.D.

Terminal Oil Prod. Co. No. 1 Thurman, 660 ft. N and W lines, SW¼, sec. 10. Spudded.

G. M. Richardson No. 1 Gerhardt, 660 ft E line, 330 ft. N line, sec. 79. Drlg. 2,-030 ft.

Southern Minerals Corp. No. 2 Rand Morgan, 330 ft. N line, midway E and W lines, Lot 42, Roberts Subd., A.B.&M. Sur. 411. R.U.

San Patricio County

Benedum & Trees Oil Co. No. 2 Welder, sec. 19. Cg. 6,380 ft.

Benedum & Trees Oil Co. No. 3 Welder, 2,259 ft. E line, 940 ft. S line, sec. 19, Welder Ranch Subd. R.U.

C. B. Bunte No. 1 Mayfield, 121 ft. W line, 237 ft. N line, Tr. 11, Ross Subd. M.I.M.

Joe Lundins No. 1 Welder, 330 ft. N and W lines, sec. 30, Paul Subd. M.I.M.

Portilla Oil & Gas Co. No. 1 Welder, 466 ft. E line, 2,333 ft. N line, sec. 5. Drlg. 4,350 ft.

Starr County

J. F. Anderson No. 1 Yzaguerre, Tr. 1. Porc. 79, J. of Camargo. Cg. sh. 1,375 ft.

Bishop & Henshaw No. 1 Martin, 660 ft. S line, 927 ft. W line, Sur. 627. M.I.M.

Coreta Oil Co. No. 1 Pena, 150 ft. S and E lines, Sh. 30, Porc. 81. T.D. 1,500 ft.; S.D.

O. W. Killam No. 1 Sanford Ricaby, 330 ft. W line, Porc. 83, J. of Camargo, 300 ft. S of Highway 4. Abd. 1,556 ft.

Killam & Stagg, No. 2 Sanford Ricaby, Porc. 83, Jurisdiction of Camargo. R.U.

Kingwood Oil Co. No. 1 M. Guerra & Son, Porc. 56, Jurisdiction of Mier. Drlg. 457 ft.

Larkin & Warr No. 1 Kelsey-Bass, 533 ft. N line, 408 ft. E line, Lot 8, Porc. 87. Cg. sh. 2,849 ft.

Ed Leach No. 1 Wood Est., 300 ft. W line E 3/7, Porc. 84. S.D. 2,740 ft.

Ed Leach No. 2 Wood Est., Por. 84, J. of Camargo (old Weyel No. 1 Wood) W.O. T.D. 2,160 ft.; P.B. 378 ft.; drlg. plug 700 ft.

Porter Evans et al No. 1 Starr County Cattle Co., con. Lot 14, Sh. 60, Porc. 89, J. of Camargo. Loc.

Webb County

Illinois Pet. Co. No. 1 J. H. Kirkpatrick, 330 ft. S and E lines, NW¼, Blk. 1, sec. 16. T.D. 1,290 ft.

Willacy County

M. E. Morton et al No. 1 Santa Rosa, 330 ft. N and E lines, Lot 12, Blk. 31, Santa Rosa Subd., Sh. 44. Loc.

Shell Pet. Corp. No. 1 Yturria Land & Cattle Co., 990 ft. S and E lines, Share 64, San Juan de Carricitos grant. T.D. 5,486 ft.; P.B. 4,700 ft.

Wilson County

A. G. Reimenschneider No. 2 L. Harrell, 750 ft. NE line, 2,800 ft. NW line, Barrera Sur. No report.

Zapata County

O. J. Perren No. 1 Uribe, 330 ft. NE line, 227 ft. SE line, Blk. 31, Borrago grant. R.U.

Zavalla County

Bay Oil Co. No. 1 Nat. Bank of Commerce, sec. 43, A.B.&M. Sur. T.D. 5,717 ft.; set csg.; W.O.C.

W. L. Bridges No. 1 Price & Flowers, L-

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330 ft. N and W lines, Blk. 1, sec. 18. T.D. 450 ft.; S.D.

Frank Buttram No. 1 Whitecotton, 2,400 ft. N line, 300 ft. W line, A.B.&M. Sur. Cg. sh. 5,750 ft.

Leona Oil Co. and Witherspoon Oil Co. No. 1 West, 330 ft. E line, midway N and S lines, sec. 1, Bustillo Sur. S.D. 6,020 ft.

S. W. TEXAS PROVEN

Dirks—Bee County

Dirks Bros. and McMurray No. 2-B Harris, 200 ft. N line, 1,025 ft. W line, 61.9-ac. tr., J. L. Dugat Sur. Lost hole; skidded 35 ft. east; drlg. 1,042 ft.

Pettus—Bee County

United Prod. Co. No. 53 Ray, Thos. Hanson Sur., Abst. 172. Sd. 3,934-35 ft.; tested gas; drlg. to Yegua 3,990 ft.

Ray—Bee County

N. V. Duncan No. 3-A Campbell, B.&B. Sur., Abst. 139. R.U.

Alta Verde—Brooks County

Fairway Prod. Co. No. 1 Singer, Sur. 312. Loc.

Nordan, Morris & Nash No. 1 Singer, 49' ft. E line, 835 ft. S line, Sur. 312. Sd. 892-902½ ft.; comp.; 60 B.P.D. on pmp.; T.D. 903 ft.

Pedernal Oil Co. No. 1 Singer, 330 ft. S line, 280 ft. W line, NW¼, SW¼, Sur. 436. T.D. 1,003 ft.; stdg.

Dale—Caldwell County

W. D. Moore No. 1 fee, 330 ft. NW and NE lines tr., Swearengen Sur. Comp. 200 B.P.D.; T.D. 2,007 ft.

Salt Flat—Caldwell County

Chiquita Oil Co. No. 1 Hickman, G. Hinds Sur. T.D. 2,273 ft.; set csg.; W.O.C.

Louis Crouch No. 1 Davis, A. Floyd Sur. T.D. 2,680 ft.; set csg.; running tbg.

Driscoll—Duval County

Continental Oil Co. No. 9-A Sevier, Sur. 23. Sd. 3,330-41 ft.; tested gas; drlg. 3,620 ft.

Government Wells—Duval County

Magnolia Pet. Co. No. 2 Harrall, Sur. 64. Comp.; 13½ bbls. in 6 hrs. on pmp.; T. D. 2,320 ft.

Morris Stein No. 1 Hahl, 160-ac. tract, Sur. 47. Spudded in.

J. T. Stover No. 1 Hester, 330 ft. S and E lines, SW¼, NE¼, Sur. 47. No report.

Hagist—Duval County

Marzo Oil Co. No. 3 Hagist, 660 ft. SW of No. 1, Sur. 6. T.D. 2,171 ft.; D.&A.

Hoffman—Duval County

Duval Oil Corp. No. 3 Hoffman, sec. 118. Sd. 2,851-58 ft.; set csg. 2,844 ft.; drlg. plugs.

Duval Oil Corp. No. 4 Hoffman, sec. 118. Spudded in.

W. C. McBride No. 1 Cuellar, Sur. 123. R.U.

W. D. Maston No. 1 Ruiz, Sur. 128. Set Sd. 2,889-96 ft.; W.O.C.

Rogers & Rogers No. 3 Sutherland, 500 ft. W of No. 1, 330 ft. S line, sec. 120. Set sur. csg.; W.O.C.

Standard of Kansas No. 4 Hoffman, Sur. 118. T.D. 2,913 ft.; comp.; 22.5 B.P.H.

Standard of Kansas No. 7 Hoffman, Sur. 118. Set csg. on sd.; drlg. plugs.

Sun Oil Co. No. 1 Sutherland, Sur. 68. Top Loma Novia sd. 2,895 ft.; tstd. S.W.; drlg. 2,920 ft.

N. Kohler—Duval County

Navarro Oil Co. No. 1 Peters, Sur. 39. R.U.

Windsor Oil Co. No. 2 Peters, 2,304 ft. S line, 3,269 ft. E line, Sur. 33. Drlg. 2,774 ft.

Labbe—Duval County

Stanolind O. & G. Co. No. 4 Farmers Life Ins., Sur. 416. P.B. 2,440 ft.; to perf. and test sd.

Loma Novia—Duval County

Bridwell Oil Co. No. 3-A Hubbard, sec. 71. Comp.; 10 B.P.H.; T.D. 2,707 ft.

Bridwell Oil Co. No. 10-A Hubbard, Sur. 71. R.U.

Bridwell Oil Co. No. 8-B Hubbard, Sur 75. Drlg. 2,035 ft.

Bridwell Oil Co. No. 5-C Hubbard, S½ NW¼, Sur. 75. Comp.; no gauge.

Bridwell Oil Co. No. 8-C Hubbard, N½ SW¼, Sur. 75. Comp.; no gauge; top sd. 2,551 ft.

Bridwell Oil Co. No. 9-C Hubbard, Sur. 75. Comp.; 20 B.P.H.; top sd. 2,549 ft.; T.D. 2,573 ft.

Bridwell Oil Co. No. 1-D Hubbard, sec. 73. Set sur. csg.; W.O.C.

C. Hamill No. 20 Hubbard, Sur. 77. T.D. 2,683 ft.; comp.; 20 B.P.H.

Highland Oil Co. No. 11 M. C. Hubbard, sec. 72. Comp.; 216 B.P.D.; sd. 2,473-88 ft.

Highland Oil Co. No. 12 Wm. Hubbard, Sur. 75. Comp.; 210 B.P.D.; sd. 2,746-73 ft.

Highland Oil Co. No. 13 Hubbard, Sur. 72. Comp.; 10 B.P.H. on ⅛-in. ch.; sd. 2,731-2,802 ft.

Humble O. & R. Co. No. 40-B Hubbard, Sur. 72. Comp.; 26.19 B.P.H. on ⅛-in. ch.; sd.; 2,735-47 ft.; T.D. 2,749 ft.

Humble O. & R. Co. No. 51-B Hubbard, Sur. 83. Set csg. 2,750 ft.; W.O.C.

Humble O. & R. Co. No. 53-B Hubbard, Sur. 72. Set csg. 2,776 ft.; W.O.C.

Humble O. & R. Co. No. 63-B Hubbard, Sur. 72. Loc.

Humble O. & R. Co. No. 39-B Hubbard, Sur. 83. Set csg. 52 ft.; W.O.C.

Humble O. & R. Co. No. 12 Ruiz, Sur. 553. Drlg. hd. L. 2,275 ft.

Humble O. & R. Co. No. 10 Vela, N½ Sur. 42. Sd. 2,784-92 ft.; comp.; 430 B. P.D.; T.D. 2,798 ft.

Magnolia Pet. Co. No. 30 Hahl, Sur. 67. Sd. 2,652-67 ft.; comp.; 15 B.P.H.on ½-in. ch.

Magnolia Pet. Co. No. 36 Hahl, Sur. 67. Comp.; 15 B.P.H. on ½-in. ch.; sd. 2,-617-31 ft.

Magnolia Pet. Co. No. 37 Hahl, Sur. 67. Drlg. 2,630 ft.

Magnolia Pet. Co. No. 38 Hahl, Sur. 67. Set csg. 2,654 ft.; W.O.C.

Reynosa Oil Co. No. 5-B Davidson, Sur. 114. Comp.; 20 B.P.H. on ½-in. ch.; T.D. 2,593 ft.

Rodney DeLange No. 4 Moody, Sur. 76. R.U.

Rosan Texla Oil Co. No. 15 Hubbard, Sur. 84. Comp.; 25 B.P.H. on ½-in. ch.

Shell Pet. Corp. No. 2 Bishop, Sur. 59. T.D. 2,315 ft.; S.D.; W.O. wtr. well.

Shell Pet. Corp. No. 3 Bishop, Sur. 59. Loc.

Shell Pet. Corp. No. 26 Hubbard, Sur. 77. Set csg. 2,700 ft.; sd. 2,705-15 ft.

Shell Pet. Corp. No. 27 Hubbard, Sur. 77. Drk.

Shell Pet. Corp. No. 31 Hubbard, Sur. 77. Set csg. 2,728 ft.; W.O.C.

Texas Co. No. 15 B.C.C., Sur. 59. Drlg. 1,101 ft.

Texas Co. No. 29 Wendt, Sur. 68. Sd. 2,-719-41 ft.; comp.; 192 B.P.D.

Texas Co. No. 40 Wendt, Sur. 68. Set csg. 2,647 ft.; W.O.C.

Texas Co. No. 42 Wendt, Sur. 68. Drlg. 91 ft.

Valley Osage Oil Co. No. 6 M. C. Hubbard, Sur. 75. Comp.; 10 B.P.H.; T.D. 2,611 ft.

Loma Vista—Duval County

Atlantic Oil Prod. Co. No. 1 J. F. Welder hrs., 330 ft. N and E lines, 160-ac. tr., Sur. 103. Loc.

Shell Pet. Corp. No. 1-A Welder, 1,040 ft. W line, 330 ft. N line lease, Sur. 103 (new hole). Cg. sh. 2,909 ft.

Piedra Lumbre—Duval County

Magnolia Pet. Co. No. 3 D.C.R.C., NW¼, Sur. 95. Swbg. in.; T.D. 1,982 ft.

Texas Co. No. 18 D.C.R.C., Sur. 95. Set csg. 1,952 ft.; W.O.C.

Seven Sisters—Duval County

Atlantic Oil Prod. Co. No. 1-D Welder, Sur. 113. T.D. 3,101 ft.; D.&A.

Atlantic Oil Prod. Co. No. 1-G Welder, Sur. 102. Swbg. in; D.S.T. 2,413-30 ft.; 220 ft. fluid, 80% oil; T.D. 2,430 ft.; set csg. 2,409 ft.

Buchanan & Blanco Oil Co. No. 12 Welder. 75 ft. S No 7, Sur. 591. Comp.; no gauge; T.D. 2,215 ft.

S. B. Cloyes No. 1 Serna, 330 ft. N and E lines tr., Sur. 384. Loc.

Dulce Henderson & Harvey No. 1 Hagist, Sur. 271. Loc.

Dulce Oil Co. No. 3-B Serna, SE¼, Sur. 384. Sd. 2,179-99 ft.; comp.; 6 B.P.H.

Humble O. & R. Co. No. 12 Smith, Sur. 382. Sd. 2,426-41 ft.; comp.; 664 B.P.D.

Humble O. & R. Co. No. 13-A Serna, SW¼, Sur. 384. Sd. 2,479-85 ft.; comp. 33.15 B. P.H. on ½-in. ch.; T.D. 2,485 ft.

Humble O. & R. Co. No. 14-A Serna, SW¼, Sur. 384. Drlg. hd. sdy. sh. 2,458 ft.

Humble O & R. Co. No. 12-B Serna, Sur. 384. Sd. 2,493-2,504 ft.; set csg. 2,492 ft.; W.O.C.

Humble O. & R. Co. No. 13 Smith, Sur. 382. Drlg. sh. 668 ft.

Humble O. & R. Co. No. 5 Wright, Sur. 118. Sd. 2,408-17 ft.; set csg. 2,507 ft.; W.O.C.

Mid-Continent Pet. Corp. No. 8 Serna, Sur. 384. M.I.M.

Navarro Oil Co. No. 4 Welder, Sur. 383. Sd. 2,456-65 ft.; comp.; 12½ B.P.H.; T. D. 2,465 ft.

Navarro Oil Co. No. 5 Welder, Sur. 383. Skidding on.

Pan American Prod. Co. No. 4-A Welder. Sur. 381. R.U.

Pan American Prod. Co. No. 1-C Welder, Sur. 383. Drlg. 2,227 ft.

Parr Oil Co. No. 4 Welder, Sur. 383. Drlg. 2,377 ft.

Reliance Oil & Royalty Co. and Henderson & Harvey No. 1 Drummond (new hole) 330 ft. S and E lines, Sur. 308. Drlg. in new hole 350 ft.

Reliance Oil & Roy. Co. No. 7 Welder, Sur. 381. Comp.; 8 B.P.H.; T.D. 2,413 ft.

Reliance Oil & Royalty Co. No. 2-A Telford, Sur. 386. Sd. 2,671-92 ft.; recmtg

Reliance Oil & Royalty Co. No. 9 Welder, Sur. 381. Loc.

Santa Clara Oil Co. (Atkins & O'Neil) No. 4-B Welder, Sur. 383. Sd. 2,457-90 ft.; D.S.T. 2,483-90 ft.; 1,000 ft. oil in 10 min.; comp.; 27 B.P.H.; T.D. 2,483 ft.

Santa Clara Oil Co. (Atkins & O'Neil) No. 1-D Welder, sec. 381. Comp.; 14 B. P.H.; sd. 2,384-2,408 ft.

Santa Clara Oil Co. No. 6-B Welder, Sur. 381. M.I.M.

Shell Pet. Corp. No. 8-A Welder, Sur. 385. T.D. 2,472 ft.; comp.; 15 B.P.H.

Texas Co. No. 1 Badgley, Sur. 307. Set. csg. 2,512 ft.; W.O.C.

Westheimer & Daube No. 10 Campos, Sur. 224. Comp.; 15 B.P.H.; T.D. 2,230 ft.

Westheimer & Daube No. 11 Campos, Sur. 224. Drlg. 2,417 ft.

Pearsall—Frio County

Amerada Pet. Corp. No. 6 Halff & Oppenheimer, 466 ft. S and W lines, S. A. Ditch Co., Sur. No. 1,104. Reworking.

Amerada Pet. Corp. No. 7 Halff & Oppenheimer, 1,320 ft. W line, 330 ft. S line, J. H. Gibson Sur. No. 16. T.D. 3,926 ft.; P.B. 3,910 ft.; W.O. tools.

Amerada Pet. Corp. No. 2 Smith, 466 ft. E line, 2,771 ft. N line tr., J. V. Mason Sur. Comp.; 300 B.P.D.; T.D. 5,611 ft.

Combs & Oakes No. 1 Arp, 330 ft. S and E lines, 102-ac. tr., S. Blair Sur. 297. Drlg. 3,966 ft.

North Pettus—Goliad County

Bostex Oil Co. No. 1 Lackey, 1,650 ft. NW line, J. Gomez Sur., 1,660 ft. SW of No. 3-A. M.I.M.

Diamond Half Oil Co. No. 3 Gillette, 1,-650 ft. N line, C E and W lines, J. Gomez Sur. Set csg. on sd. 3,656-64 ft.; W.O.C.

Jane Oil Co. No. 2 Lackey & Welder, 660 ft. SE of No. 1, J. Gomez Sur.; sd. 3,678-86 ft.; set csg. 3,677 ft.; testing.

Jane Oil Co. No. 9 Mudd, B.&B. Sur. 25. Sd. 3,705-12 ft.; set csg. 3,703 ft.; W. O.C.

Magnolia Pet. Co. No. 1 Gillette, 137 ft. SW line lse., 1,650 ft. NW line, J. Gomez Sur. Drlg. 3,200 ft.

Sun Oil Co. No. 6 Scarborough, E. Talley Sur. Drlg. 2,616 ft.

Clark—Guadalupe County

Eickenroht & Gallagher No. 1 Johns, 130 ft. E line, 450 ft. N line, 840-ac. tr., DeWitt Sur. 13. T.D. 3,134 ft.; S.D.

Mercedes—Hidalgo County

Union Sulphur Co. No. 7 American Rio Grande L. & I. Co., 4,000 ft. SE of No 1 Farm Tr. 2,309, Blk. 59. T.D. 7,597 ft.; S.D. for orders.

Union Sulphur Co. No. 8 American Rio Grande L. & I. Co., 660 ft. N & E lines Tr. 2,120, Blk. 87. T.D. 7,822 ft.; drlg. plugs; to perf. 7,600 ft.

Union Sulphur Co. No. 9 American Rio Grande L. & I. Co., Farm Tr. 2,275, Blk. 59. Cg. hd. sh. 7,315 ft.

Samfordyce—Hidalgo County

J. H. Anderson No. 5 Guerra, Tr. 254. Porc. 40. Sd. 2,745-53 ft.; comp.; 36 B. P.D. on 3/32-in. ch.

J. T. Barlow No. 1 Marta Flores de Chapa, Tr. 250, Porc. 39 (workover). Comp. as gasser; sd. 2,953-55 ft.; M.I.R.; to rework.

Barnett Pet. Corp. No. 3-A Sheldon, Tr. 11, Porc. 41. Drlg. sh. 657 ft.

C. A. Clements No. 2 F. B. Guerra, Tr. 254, Porc. 39. R.U.

Navarro Oil Co. No. 3 F. B. Guerra, Share 12, Porc. 41, Sd. 2,765-84 ft.; comp.; 75 B.P.D. on ⅛-in. ch.

Rogers & Rogers No. 5 Guerra, 230 ft. N and E lines, Tr. 254, Porc. 38, 39 and 40. Set sur. csg. 297 ft.; W.O.C.

Weekly Oil Corp. No. 2 Lula George, Tr. 12, Porc. 41. M.I.M.

G. W. Wheeler No. 2 Felipe Farias, Tr. 255, Porc. 39. T.D. 2,795 ft.; S.D. repairs.

Bentonville—Jim Wells County

La Jita Corp. No. 1 Pope, 660 ft. S and E lines, sec. 20, King Farm Lots. Spudded in.

Stanolind O. & G. Co. No. 1 Bowers, 330 ft. S and E lines, sec. 14, King Farm Lots. Abd. loc.

Stanolind O. & G. Co. No. 1 Raney, 330 ft. N and E lines, sec. 16. Drlg. 2,610 ft.

Stanolind O. & G. Co. No. 1 Sain, 330 ft. S and W lines, sec. 18. Drlg. 2,604 ft.

Stanolind O. & G. Co. No. 1 Thompson, 330 ft. N and W lines, NE¼ sec. 4. R.U.

Texon and Lucey No. 1 Dodd, 330 ft. S and E lines, sec. 15, R. King Farm Lots Sud. Sd. 5,717-22 ft.; D.S.T.; 7-min. 5,716-23 ft.; dry gas; prep. core ahead.

San Diego—Jim Wells County

Houston Oil Co. No. 1 Hawkins & Wallace, 990 ft. S and E lines, Blk. 11, Perf. 2,952-57 ft.; comp.; 1,500,000 ft. gas, with slight show S.W. on 5/16-in ch.; reworking.

Loma Alta—McMullen County

V. G. Schimmel No. 1 Hagist, 330 ft. N and E lines, SW¼, Sur. 108. T.D. 2,766 ft.; D.&A.

Rhode—McMullen County

Humble O. & R. Co. No. 1 Rhode, 330 ft. N and E lines, Sur. 58. Drlg. stky. sh. and L. 1,490 ft.

Saxet Heights—Nueces County

Bartlett & Reed No. 1 Carson, SW cor., 20-ac. tr., Villareal Sur. Set csg. 4,126 ft.; perf. 4,078-84 ft.; made gas; reworking.

Capitol Oils, Inc., No. 1 L. Ayres, cen. 5-ac. tr., Villareal Sur. Sd. 4,069-80 ft.; blew out and burned; shut in; stdg.

Capitol Oils, Inc. No. 1 Gravis, 2.86-ac. tr., Blk. 11, Bancroft Farm Lots. Drlg. 2,-684 ft.

Cherokee Oil Co. No. 1 Groescher, Villareal Sur. T.D. 4,072 ft.; completing.

Corpus Christi Ref. Corp. No. 1 fee, 333 ft. S line, midway E and W lines, 12.16-ac. tr., J. H. Sigler Sur. T.D. 4,078 ft.; comp.; 100 B.P.D. on 5/32-in. ch.

J. K. Culton No. 1 Cantwell, 250 ft. W line, 510 ft. S line tr. M.I.M.

Tom Graham No. 1 Harmon-Flood, Blk. 4 and 5, Ellendale Gardens No. 1. Drlg. 2,757 ft.

Tom Graham No. 1 Kaiser, Villareal Sur. T.D. 4,077 ft.; rng. tbg.

Graham & Roberts No. 1 Curry, Villareal Sur. Sd. 4,080-85 ft.; brought in as gasser; reperforating 4,073-77 ft.

Graham & Duncan No. 1-A Priour, Villareal Sur. Tstd. oil 4,064-68½ ft.; comp.; 12 B.P.H. on 5/32-in. ch.

Tom Graham No. 1-B Priour, 4½-ac. tr. M.I.M.

D. H. Hawn No. 1 Priour, 5-ac. tr., Oak Park Addn. Sd. 4,067-75 ft.; set csg.; W.O.C.

Johnson et al No. 1 Cowles, 160 ft. W line, 75 ft. S line tr. T.D. 3,500 ft.; fsg.

Johnston et al No. 1 Werner, Blks. 11, 12, Ellendale Gardens No. 1. Set csg. 4,-081 ft.; W.O.C.

Port O. & G. Co. No. 1 Country Club, C Lot 20, Villareal Sur. Perforated 4,080-85 ft.; cleaning.

Port Oil & Gas Co. No. 4 Country Club, Lot 20, Villareal Sur. Drlg. 2,011 ft.

Port Oil & Gas Co. No. 1 Gibson, cen. 1.25-ac. tr., Blk. B, Harbor View Addn. Set csg. 4,061 ft.; W.O.C.

Renwar Oil Corp. No. 1 Guaranty Title & Trust Co., Lot 9, Blk. 12, Villa Gardens. Drk.

W. A. Richardson No. 2 Edwards, 10-ac. tr., Villareal Sur. Drk.

Hiram Reed No. 1 Quinn, Villareal Sur. T.D. 4,117 ft.; swabbing.

J. B. Salmon No. 1 Clark, Blk. 4, Oaklawn Subd. T.D. 4,076 ft.; jetting.

W. F. Stone No. 1 J. H. Dryer, Blk. 5, Villa Gardens. Set sur. csg. 500 ft.; W.O.C.

Taylor Ref. Co. No. 4 Corpus Christi Golf and Country Club, 83-ac. tr., Villareal Sur. Set csg. 4,080 ft.; W.O.C.

Taylor Ref. Co. No. 2 Corpus Christi Country Club, 250 ft. SW line, 1,005 ft. SE line, 73-ac. tr. T.D. 4,247 ft.; P.B. to whipstock.

Westgate Oil Co. No. 2 Sturm, 730 ft. S No. 3, 150 ft. W line, 83-ac. tr. Set csg. 500 ft.; W.O.C.

Westgate Oil Co. No. 6 Sturm est., 150 ft. S and W lines, 89-ac. tr., Villareal Sur. Sd. 4,072-82 ft.; comp.; 10 B.P.H.

Winn Drlg. Co. No. 1 Starr, 125 ft. NW line, 150 ft. SW line, 3.39-ac. tr., Blk. 11, Bancroft Farm Lots. Drlg. 3,774 ft.

Saxet—Nueces County

Paul Benedum No. 2 Morgan, Sur. 405 (old Gibson O. & G. Co. test) W.O. Drk.

Coastland Oil Co. and Keystone Royalty No. 1 Page Bros. (workover), 330 ft. N and E lines, S 50 acres, 104-ac. tr., Sh. 2, Frank Subd. Drlg. 5,704 ft.

W. W. Chapman No. 1 Morgan Clark, 330 ft. S and E lines, 322-ac. tr., Sur. 405. (Old Texas Coast Oil Co. well) workover. T.D. 4,906 ft.; washing down.

Conroe Drlg. Co. No. 1 Frank Bliss, W 80-ac. tr., J. W. Stevens Sur. No. 406. Sd. 5,814-31 ft.; comp.; 6 B.P.H. on ⅛-in. ch.

Conroe Drlg. Co. No. 2 Frank Bliss, J. W. Stevens Sur. 406. Loc.

Conroe Drlg. Co. No. 1-B Rand Morgan, 330 ft. N line, 990 ft. E line lease, Sur. 403. Set csg. 150 ft.; W.O.C.

Conroe Drlg. Co. No. 1-A Rand Morgan, 990 ft. E line, 330 ft. N line, Sur. 403. Drk.

L. Glasscock No. 1 Glover Johns, W. S. McGregor Sur. 582. R.U.

Great States Oil Co. No. 1 Rand Morgan, B.S.&F. Sur. Sd. 4,075-99 ft.; comptg.

Great States Oil Co. No. 1 Smith, 330 ft. W line, 125 ft. N line, 11-ac. tr. Drlg. sdy. sh. 1,467 ft.

W. B. Hinton No. 1 E. B. Cole, 60-ac. tr., Villareal Sur. Sd. 4,848-73 ft.; drlg. plugs.

A. F. Holliday No. 2 Griffith, 347 ft. W of No. 1, G. Frank Sur. 416. Sd. 5,824-40 ft.; rng. csg.

A. F. Holliday No. 3 Griffith, 330 ft. N and E lines, 99.79-ac. tr., Frank Sur. 416. Set sur. csg.; W.O.C.

A. F. Holliday No. 4 Hutchins-Stillwell, 330 ft. S and W lines, Blk. 30, Sheppard Farm Lands. Set sur. csg.; W.O.C.

A. F. Holliday No. 3 Hutchins, sec. 30. Blew out and ran wild; capped and stdg.

Houston Oil Co. No. 3 Harrell, Blk. 19, Sheppard Farm Lots. Sd. 4,861-68 ft.; Comp.; 150 B.P.D. on 5/32-in. ch.

Houston Oil Co. No. 11 Rand Morgan, sec. 7, Rge. 5. Set sur. csg. 184 ft.; W. O.C.

Morgan Gulf Oil Co. No. 1 Rand Morgan, 1,650 ft. E line, 330 ft. S line, B.S.&F. Sur. 405. Sd. 4,070-95 ft.; comp.; 7 B.P. H. on 5/32-in. ch.

Morgan Gulf Oil Co. No. 3 Rand Morgan, 990 ft. N line, 330 ft. E line, Sur. 403. Sd. 5,815-29 ft.; set csg. 5,817 ft.

Morgan Gulf Oil Co. and Great States Oil Co. No. 1 Humphreys, 330 ft. S line, 990 ft. W line, Stevens Sur. 406. Drlg. 3,012 ft.

Morgan Gulf Oil Co. and Great States No. 1-B Rand Morgan, B.S.&F. Sur. 404. T.D. 4,091 ft.; set csg.; W.O.C.

Maryland Corp. and R. M. Hutchins No. 1 Gonzales, cen. Blk. 8, Clarkwood Townsite. Sd. 4,418-31 ft.; set csg.; W.O.C.

Phillips Pet. Co. No. 3 Hutchins, 330 ft. N and W lines, Blk. 19, Sheppard Farm Lots. Spudded in.

W. A. Richardson No. 1 W. S. Hutchins (workover), 330 ft. S and E lines, 80-ac. tr., Sh. 2, Frank Sur. 416. T.D. 5,000 ft.; M.I.M.

W. A. Richardson No. 4 Meredith, cen. Blk. 9, Clarkwood townsite. Sd. 4,405-21 ft.; set csg.; W.O.C.

Richardson Pet. Co. No. 1 Hugo Isensee, cen. 14.4-ac. tr., C. Land Sur. 404. Sd. 4,390-98 ft.; set csg. 4,391 ft.; W.O.C.

Shell Pet. Corp. No. 3 Flato, 330 ft. E and S lines lease, 40-ac. tr., I. Dunn Sur. Set sur. csg. 998 ft.; W.O.C.

Sinclair Prairie Oil Co. No. 2 Isensee, 330 ft. S and E lines, 80-ac. tr., C. Land Sur. 404. R.U.

Southern Minerals Corp. No. 2 Rand Morgan, Blk. 42, Roberts Subd. Cg. 3,764 ft.

Southern Minerals Corp. No. 4 Bliss, Sur. 406. Sd. 5,826-38 ft.; drlg. in.

Southern Minerals Corp. No. 1 Isensee, C. Land Sur. 404. Spdg. in.

Southern Minerals Corp. No. 2 Mastin, 125-ac. tr., G. Frank Sur. 416. Drk.

Southern Minerals Corp. No. 5 Smith, Blk. 4, H. B. Sheppard Farm Lots. Sd. 4,856-66 ft.; drlg. in.

Southern Minerals Corp. No. 6 Smith, Blk. 4, Sheppard Farm Lots. Drlg. 2,007 ft.
Texon Royalty Co. No. 1 McElroy, 116 ft. N line, 100 ft. W line, 40-ac. tr., Gallagher Sur. D.S. stuck 4,100 ft.; stdg.

Plymouth—San Patricio County

Humble O. & R. Co. No. 2 Bevly, 466 ft. N line, 315 ft. E line, Blk. 8, Sur. 35. T.D. 3,900 ft.; stdg.; W.O. orders.
Magnolia Pet. Co. No. 7 Corpus Christ. Bank, 932 ft. E of No. 6, sec. 24. Comp. 34 B.P.H. on 7/64-in. ch.; T.D. 5,884 ft.; sd. 5,873-84 ft.
Plymouth Oil Co. No. 47-C Welder, 3,187 ft. S line, 1,433 ft. W line, sec. 49. Drlg. sh. 5,450 ft.
Plymouth Oil Co. No. 48-C Welder, 1,213 ft. N line, 1,188 ft. E line, sec. 49. Drlg. sh. 4,667 ft.
Plymouth Oil Co. No. 49-C Welder, 331 ft. N line, 1,107 ft. W line, sec. 49. M.I.M.
Sun Oil Co. No. 3 Edgar, 466 ft. E line, 446 ft. N line lse., Blk. 1, sec. 34. M.I. drk.
Sun Oil Co. No. 7 Hunt, 466 ft. S and E lines, Lot 5, sec. 34, Taft Farm Lands Subd. Drlg. 2,936 ft.
Sun Oil Co. No. 1 Jackson, 466 ft. N line, 315 ft. W line tr., E½ W½ sec. 35, J. Fessenden Sur. Loc.

Taft Field—San Patricio County

Cage Prod. Co. No. 2 Mayo, Tabor Sur. R.U.
Humble O. & R. Co. No. 2 Mayo, 1,323 ft. S line, 1,152 ft. E line tr., Tabor Sur. Sd. 3,964-80 ft.; comp.; 118 B.P.D. on 9/64-in. ch.

Margo—Starr County

Harter et al No. 2 Sanchez, 150 ft. S and W lines, 29.72-ac. tr., Sh. 72, Porc. 72, W.O. T.D. 500 ft.; M.I.M.

Rio Grande City—Starr County

Fech Oil Co. No. 3 Frank Doyno, 150 ft. N and E lines, Blk. 4, Tr. 77-A, Porc. 81. R.U.
Fech Oil Co. No. 1 Medardo Hinojosa, Sh. 36-A, Porc. 80, J. of Camargo. T.D. 1,504 ft.; W.O. orders; Rio Grande City sand 1,448-60 ft.; T.D. 1,460 ft.; D.&A.

Samfordyce—Starr County

E. A. Graham No. 1 Santos Villareal, 26.48-ac. tr., Tr. 250, Porc. 38, Sd. 3,032-42 ft.; comp.; gasser; perf. 2,788-91.5 ft.
Porter & Grimes No. 2 Garcia Land & Livestock Co., Lot 1, W½, Porc. 100. Set sur. csg. 202 ft.; W.O.C.
Skelly Oil Co. No. 8 Seabury, Tr. 256, Porc. 38, Sd. 2,820-26 ft.; set csg. 2,826 ft.; W.O.C.
Sun Oil Co. No. 3 Chapatola, 660 ft. N. 330 ft. W No. 2, Porc. 99. Cg. 3,089 ft.

Aviator—Webb County

Five Spot Drlg. Co. No. 1 Bruni, Blk. 44, Albercas grant. Tstg. sd. 1,704-06 ft.

Lopez—Webb County

C. H. Lewis No. 6 Lopez, sec. 110. Drlg. 1,421 ft.
Magnolia Pet. Co. No. 1 Peal, 1,669 ft. NE of NE cor. of Sur. 73, 330 ft. W line, Sur. 383. Set sur. csg. 119 ft.; W. O.C.
Mills Bennett Prod. Co. No. 7 Lopez, Sur. 112. Sd. 2,213-35 ft.; comp.; 20 B.P.H.; T.D. 2,235 ft.
Mortimer & Springer No. 8 M. Lopez, sec. 114. Sd. 2,136-62 ft.; comp.; 20 B.P.H. on ¼-in. ch.; T.D. 2,163 ft.
Superior Oil Co. No. 7 W. C. Billings, Sur. 109. Sd. 2,228-31 ft.; comp.; 100 B. P.D.; T.D. 2,257 ft.
Superior Oil Co. No. 7-A Billings, 990 ft. S line, 2,310 ft. E line, Sur. 113. Sd. 2,207-35 ft.; swabbing.

O'Hern—Webb County

Magnolia Pet. Co. No. 14 Seacord-Benavides, C Blk. 427. Comp.; 75 B.P.D.; T. D. 2,886 ft.
Magnolia Pet. Co. No. 15 Seacord-Benavides, C Blk. 458, Hale Subd. Set csg. 2,915 ft.; W.O.C.
Magnolia Pet. Co. No. 16 Seacord-Benavides, C Blk. 495, Hale Subd. Drlg. 1,-720 ft.
J. J. O'Hern No 2-A Benavides, Hale Subd., Arispe grant. Drlg. 857 ft.
Otis Phillips No. 1-B Benavides, Blk. 134, Hale Subd. S.D. 3,250 ft.
T. S. Reed No. 4 Brennan-Benavides, Blk. 364, Hale Subd. Cg. 2,700 ft.
Texas Oil Corp. No. 2-D Benavides, Hale Subd., Arispe grant. Sd. 2,864-88 ft.; set csg.; testing.

Escobas—Zapata County

B. W. Roscoe No. 4 Bustamante, Share 33. Sd. 1,380-88 ft.; S.D.; T.D. 1,388 ft.
Texas Co. No. 89 Whitehead, Cerrito Blanco grant. T.D. 1,780 ft.; P.B. 1,292 ft.; W.O.C.
R. A. Mitchell No. 1 Bustamente, Share 32, Comitas gr. No report.
S.R.C. Oil Co. No. 11-E Trevino Sur. 66. Comp.; 25 B.P.D.; T.D. 1,279 ft.

Haynes—Zapata County

Geo. Buck No. 1 Haynes, Blk. 4, Alice D. Haynes Subd. Drlg. 736 ft.
Upchurch & McKay No. 1 Haynes, Blk. 7, Haynes Subd. T.D. 987 ft.; S.D.
Upchurch & McKay No. 2 Haynes, 80-ac. lse., sec. 7, Haynes Subd. Tstg. 881 ft.

WEST TEXAS WILDCATS

Andrews County

Grisham-Hunter Oil Corp. No. 1 Ratliff & Bedford, sec. 24, Blk. 73, P.S.L. Sur. Machine.

Brewster County

F. C. Dodson No. 1 Texas American Synd., sec. 66, Blk. 10, G.H.&S.A. Sur. Drlg. 1,975 ft.

Borden County

John I. Moore No. 1 Blank, SE cor. sec. 20, Blk. 33, Twp. 4n, T.&P. Sur. Loc.

Cochran County

Cascade and Honolulu Oil Corp. No. 1 E. B. Duggan, cen. Labour 13, League 55 Oldham County School Land. T.D. 232 ft.; waiting on rotary.

Concho County

W. C. Nelson et al No. 1 Rice, sec. 13, H.&T.C. Sur. Drlg. 1,782 ft.

Crane County

Clark et al No. 1 A. P. Jordan, sec. 12, Blk. B-22, P.S.L. Sur. Machine.
Gulf Oil Corp. No. 2 W. N. Waddell, sec. 18, Blk. B-21. Drlg. 2,936 ft.
Gulf Oil Corp. No. 2 Tubbs, sec. 12, Blk. 27-B. Drlg. 2,451 ft.
Gulf Oil Corp. No. 2 McKnight, sec. 9, Blk. B-21. Loc.
Humble O. & R. Co. No. 2 Tubbs, sec. 11 Blk. B-27. S.D. 4,375 ft.; made 360 bbls. in 6 hrs.
Loffland Bros. No. 2 Tubbs, sec. 9, B-27. R.U. standard tools.
Moore Bros. No. 1 Barnsley, sec. 43, Blk. 32, P.S.L. Sur. Drlg. 4,527 ft.
Rider et al No. 1 Thaxton, sec. 2, W. L. Wilkenson Sur. Spudded and S.D.
Sinclair Prairie Oil Co. et al No. 1 Tubbs, sec. 3, Blk. B-27. S.D. 4,469 ft.

Crockett County

John I. Moore No. 1 A. C. Hoover, sec. 4, Blk. FF, B.&B. Sur. Drlg. 1,255 ft.

Ector County

W. Dunning, Jr., No. 1 H. E. Cummins, sec. 33, Blk. 45, Twp. 1n, T.&P. Sur. T.D. 4,252 ft.; flowed 406 bbls. in 24 hrs.
Grisham-Hunter Corp. No. 1 R. B. Cowden, C of SE¼, sec. 10, Blk. 45, Twp. 2n, T.&P. Sur. Cellar.

Edwards County

Paul Teas No. 1 J. B. Stewart, sec. 2 Blk. DA, G.C.&S.F. Sur. Fsg. 5,290 ft.

Fisher County

Ellis & Eubanks No. 1 C. C. Wourland, 1,650 ft. from N and 300 ft. from W, sec. 15, Blk. 21, T.&P. Sur. Loc.
Forest Dev. Co. No. 1 A. M. Dry, sec. 108, Blk. 2, H.&T.C. Sur. T.D. 3,462 ft.; pulling pipe.

Gaines County

Landreth Prod. Co. No. 1 Kirk, sec. 22, A-21. Drlg. 4,379 ft.

Garza County

Brown Eagle Oil Co. No. 1 Sullivan, sec. 3, Blk. 5, K. Aycock Sur. S.D. 500 ft.
M. L. Richards No. 1 U. U. Post est., sec. 1,232, D. L. Phillips Sur. Machine.

Glasscock County

M. B. Stanton et al No. 1 W. P. Edwards, sec. 11, Blk. 34, Twp. 2s, T.&R. Sur. S.D. 983 ft.

Howard County

Southern Oil Co. No. 1 W.P. Edwards, sec. 32, Blk. 30, Twp. 1s, T.&P. Sur. S.D. 3,006 ft.
D. C. Reed et al No. 1 Walter Pike, sec. 24, Blk. 33, Twp. 1n, T.&P. Sur. S.D. 2,690 ft.

Hudspeth County

Costello Oil Corp. No. 1 Costello, SW cor. sec. 36, Blk. 70, elev. 4,075 ft. Loc.
Haymon Krupp Oil & Land Co. No. 1 Thaxton, sec. 34, Blk. 74, Twp. 6, T.&P. Sur. Drlg. 1,026 ft.

Jeff Davis County

C. M. Joiner No. 1 Jones & Coffield, sec. 8, Blk. 3, H.&T.C. Sur. Drlg. 4,000 ft.

Jones County

Gyr & Davis No. 1 Clyburn, E. H. Millard Sur., Sub. 27. Spudded.
Parker No. 1 C. L. Brown, sec. 9, Blk. 2, T.&N.O. Sur. T.D. 2,058 ft.; U.R. csg.

Menard County

Wilcox O. & G. Co. No. 1 Merchenson, sec. 158, E.L.R.R. Sur., Abst. 1,840, 8 miles S of Menard. Drlg. 2,622 ft.

Pecos County

Dobbs Oil Co. No. 1 Rooney, sec. 12, Blk. 125, T.&St.L. Sur. S.D. 2,030 ft.
S. Thompson No. 1 Elsinore Cattle Co., sec. 54, Blk. D, G.C.&S.F. Sur. Drlg. 800 ft.
Trans-Pecos Oil Co. No. 1 F. W. Popham, sec. 235, Blk. 11, G.H.&S.F. Sur. S.D. 560 ft.

Presidio County

Linderman Bros. Oil Corp. No. 1 J. R. Bledsoe & Badgley, sec. 15, Blk. 351, G.C.&S.F. R.R. Co. Sur., 2½ mil. NE of Presidio. T.D. 1,635 ft.

Reagan County

Bahan & Rhodes No. 1 M. Chase, sec. 40, Blk. 36, Twp. 5s, T.&P. Sur. Fsg. 3,320 ft.

Schleicher County

Cardinal Oil Co. et al No. 1 J. A. Whitten, sec. 35, Blk. LL, T.C.R.R. Sur. Drlg. 4,700 ft.
Mangus Oil Co. No. 1 Judkins & Spencer, C SW¼ sec. 4, Blk. V-28. Elev. 2,209 ft.; S.G. 4,350 ft.; gas sd. 4,956-58 ft.; drlg. 5,915 ft.

Terry County

J. A. Estes No. 1 F. B. Graham, sec. 23, Blk. T, O.&W.R.R. Material.

Tom Green County

Spinner No. 1 Reed, Sub. 39, Mason & Perry Sur. Drlg. 2,200 ft.

Ward County

Gulf Oil Corp. No. 1 W. A. Estes, sec. 38, Blk. 34, H.&T.C. Sur. Drlg. 1,806 ft.
P. Moran et al No. 1 Reynolds, sec. 12, Blk. 5, H.&T.C. Sur. Drlg. 110 ft.
Peck et al No. 2 Reynolds, sec. 12, Blk. 32, H.&T.C. Sur. Drlg. 716 ft.
Superior Oil Co. No. 1 J. H. Hughes, sec. 67, Blk. 34, H.&T.C. Sur. S.D. 3,000 ft.

Winkler County

R. H. Henderson et al No. 1 J. B. Walton, sec. 10, Blk. 26. T.D. 3,045 ft.; making 25 bbls. day.
Herbert Oil Co. No. 1 I. Hendrick, sec. 14, Blk. 26. Drlg. 3,000 ft.
Humble O. & R. Co. No. 2-C Walton, sec. 34, Blk. 74, P.S.L. Sur. Drlg. 2,775 ft.
Fred Hyer No. 1 Evans, sec. 8, Blk. 66. Fsg. 4,435 ft.
Joiner No. 1 Evans, sec. 46, Blk. 73, P.S.L. Sur. S.D. 3,335 ft.; to run csg.
Read & Duffey No. 1 Sealey, sec. 8, Blk. A, G.M.M.B.&A. Sur. Spudded.

Yoakum County

Bahan et al No. 1 Henard, C SW ¼, sec. 367, Blk. D, J. H. Gibson Sur. Drlg. 715 ft.
Stogner et al No. 1 Roosevelt, 2,230 ft. from N and 330 ft. from E, sec. 215, Blk. D, John H. Gibson Sur. T.D. 140 ft.

TEX. PANHANDLE WILDCATS

Gray County

Bell O. & G. Co. No. 2 Furneaux, sec. 102, Blk. B-2, H.&G.N. Sur. Drk.
Joana Oil Corp. No. 1 Rendleman, sec. 146, Blk. B-2, H.&G.N. Sur. T.D. 2,810 ft.; pay 2,690-2,810 ft.; est. 35,000,000 ft. gas; shut in.
K. Kinsey No. 1 Stephens, sec. 187, Blk. sec. 546, Blk. H, B-2, H.&G.N. Sur. T.D. 2,475 feet, fishing tools.
Warner Oil Co. No. 1 Parker, 330 ft. from S and W lines of NW¼ of sec. 18, Blk. H. A. Wallace Sur. Drlg. 1,050 ft.

Hartley County

O. V. Beck et al No. 1-A Matador Ranch, sec. 20, Blk. 22, C.S.S. Sur. Pipe stuck 4,600 ft. and S.D.

Hutchinson County

Harry Stekall No. 1 Erle Thompson, sec. 5, Blk. M-18, D.P. Sur. Drlg. 1,145 ft.; testing.
L. L. Travis et al No. 1 Hodges, sec. 14, Blk. X-02, H.O.&B. Sur. T.D. 3,082 ft.;

Moore County

Moran Bros. No. 1 Lucky Tiger Oil Co., 330 ft. from S and E lines, SE¼ sec. 5, Blk. 1, P.D. Sur. Drlg. 2,450 ft.
Shamrock O. & G. Co. No. 1 Ryan-Jones sec. 190, Blk. 3-T, T.&N.O. Sur. T.D. 3,-495 ft.; P.B. to 3,404 ft.; to comp. as gas well.

Wheeler County

Allender & Heare No. 1 Harvey, sec. 67, Blk. 13, H.&G.N. Sur. T.D. 2,187 ft.; fsg.
Ben G. Barnett No. 1 Stewart, sec. 73, Blk. 13, H.&G.N. Sur. S.D. 2,136 ft.
Johnston et al No. 1 Rabo, sec. 105, Blk. 23, H.&G.N. Sur. Spudded and S.D.
Phillips Pet. Co. No. 1 Porter, sec. 35, Blk. A-8, H.&G.N. Sur. Drlg. 3,445 ft.

E. C. TEXAS WILDCATS

Anderson County

Gulf Oil Corp No. 1 Ross, 1,770 ft. from SW and 1,370 ft. from NW of Robt. Irwin Sur. T.D. 5,476 ft.; elev. 487 ft.; S.D.

Angelina County

G. E. Ginter No. 1 Martin Wagon Works E. Evans Sur., 2 mi. W of Homer. Spdd.
Bill La Rue No. 1 Cameron Lbr. Co., I. Ray Sur. Top sd. 1,340 ft.; S.D. 1,354 ft.
Ginter et al No. 1 Cope hrs., Jose Moron Sur., 3 mi. E of Dibol. S.D. 990 ft.

Bowie County

Westmount Oil Co. No. 1 R. N. Phillips, G. N. Hancock Sur., 10 mi. N of Oak Grove. S.D. 750 ft.

Cherokee County

T. J. Wood et al No. 1 Huggins, L. Jordan Sur., 2 mi. SW of discovery, or 7 mi. SW of Rusk. Loc.

Fannin County

Carter, Trustee, No. 1 Galloway, Georgetown L. 1,697-2,203 ft.; S.D. 2,275 ft.

Franklin County

Lucey Pet. Co. No. 2 A. W. Crawford, O. James Sur. Pecan Gap 1,597-1,778 ft.; drlg. 2,500 ft.

Grayson County

Olson Drlg. Co. No. 1 Southwestern Life Ins. Co., J. C. Jamison Sur., 6 miles NW of Denison. Elev. 767 ft. Top Viola 4,-901 ft.; T.D. 5,890 ft.; P.B. to 5,300 ft.; S.D. 5,538 ft.

Henderson County

McDougal et al No. 1 E. Price, M. Mathews Sur., 4 mi. S of Trinidad. Rig.

Kaufman County

Lester & Duffield No. 1 D. C. Baron, J. T. Taylor Sur., 8 mi. NE of Elmo. Drk.
Scott & Woodside No. 1 Robinson, A. Cherino Sur., 2 mi. W of Scurry. Austin chalk 1,200 ft.; S.D. 1,846 ft.

Limestone County

E. H. Daugherty No. 1 S. Welch, A. Varella Sur., 4 mi. W of Groesbeck. T.D. 3,131 ft.; rng. lnr.
C. L. Lytle No. 1 J. L. Thompson, P. Varella Sur., Mexia field. T.D. 6,054 ft.; P.B. 5,880 ft.; S.D. for csg.

Navarro County

E. A. Thomason No. 2 Estes Bros., Wm. Gilbert Sur., 1,000 ft. E of No. 1, 1 mi. E of Roane. Top Austin 1,504 ft.; S.D. 2,200 ft.

Red River County

Abercrombie-Harrison No. 1 Temple Lbr. Co., D. D. Bruton Sur., 10 mi. NE of Clarksville. Top Georgetown 665 ft.; drlg. 1,220 ft.
Williams et al No. 1 L. and O. Roberts, James Bankston Sur., 2 miles NE of Annona. Elev. 396 ft.; S.D. 725 ft.

Rusk County

D'Arman et al No. 1 R. E. Talliferro, T. L. Wilkshire, 5 mi. W of Henderson. No information.
McCallum et al No. 1 E. C. Gary, John Piburn Sur., 5 miles S of Henderson. Elev. 338 ft.; S.D. 3,750 ft.
Pure Oil Co. No. 1 W. H. Faulkner, Wm. Elliott Sur., S of Concord. Elev. 563 ft.; drlg. 6,030 ft.

Titus County

Jule Alford No. 2 Frv. 1. P. Stern Sur., 1.-313 ft. N of No. 1. Drk.
Dean & Atkisson No. 1 A. Cornelius, 150 ft. N and 90 ft. W line of 3-ac. tr., Delgado Sur. Loc.
Hollingsworth Drlg. Co. No. 1 A. O. Brown, cen. Lot 1, Blk. 41, Delgado Sur. R.U.
Jones & Shelburne No. 1 Hazelwood, 330 ft. N and E, NE 10 ac. of 40-ac. tr., Stern Sur. Drk.
B. C. Morrison No. 1 L. Sanders, C of Lot 1, Blk. 30, Talco townsite. R.U.
Nivla Oil Co. No. 1 J. N. Kelley, J. Holman Sur. Drlg. 1,079 ft.
Ownby Drlg. Co. et al No. 1 F. Jones, C Lot 6, Blk. 16, M. V. Delgado Sur. Pecan Gap 1,620-1,755 ft.; elev. 361 ft.; cut fault 4,000 ft.; drlg. 4,060 ft.
Saunders et al No. 1 Talco School Dist., I. P. Stern Sur., Austin 2,451-81 ft.; Georgetown 3,440 ft.; top sand 4,185 ft.; drlg. 4,200 ft.
Tide Water Oil Co. No. 1 Carr, M. V. Delgado Sur. Elev. 358 ft.; top Pecan 1.-656 ft.; drlg. 1,888 ft.

Van Zandt County

A. W. Walker et al No. 1 C. M. Whitaker, T. Buckley Sur., 2 mi. N of Grand Saline. Elev. 408 ft.; top Austin 3,750 ft.; drlg. 3,855 ft.

EAST TEXAS

(Border Counties)

Cass County

American Liberty Oil Co. No. 3 Maxie, John Collom Sur. Comp.; 26 B.P.H.; ¾-in. tbg. ch.
American Liberty Oil Co. No. 4 Maxie, John Collum Sur. Drlg. 5,209 ft.
American Liberty Oil Co. No. 5 Maxie, 660 ft. NW of No. 2 and 660 ft. NE of No. 3 Maxie, John Collom Sur. Loc.
American Liberty Oil Co. No. 6 Maxie, 330 ft. S and 990 ft. W, NE cor. of lse., John Collom Sur. Loc.
American Liberty Oil Co. No. 7 Maxie, 330 ft. from N and E lines of lse., John Collom Sur. Loc.
Marathon Oil Co. No. 1 R. P. Willis, S.F. I.W. Sur. No. 1,263. R.U.
McElvane et al No. 1 Beckett, John Collom Sur. Cmtd. 7-in. 5,961 ft.; T.D. 6,-008 ft.
R. W. Norton No. 1 W. M. Hall, 330 ft. S and 697 ft. W. NE cor. 100 acs., W. Robinson Sur. No. 907. R.U.
R. W. Norton No. 1 A. S. Hall, 334 ft. S and 2,091 ft. E, NW cor. 160 acs., James Young Sur. Set 13⅜-in. at 270 ft.
R. W. Norton No. 2 Haywood, Priscilla Evans Sur. Cmtd. 6⅝-in. at 6,032 ft.; T.D. 6,049 ft.
R. W. Norton No. 2 Mary Rives, John Collom Sur. Cg. 6,003 ft.
Showers & Moncrief Co. No. 1 Stallcup, J. Davenport Sur. R.U.
Superior Oil Co. No. 1 Stallcup, 330 ft. N of S line and middle E and W of 20 ac., Robert Trammel Sur. Drlg. 1,165 ft.
Superior Oil Co. No. 2 Stallcup, 900 ft. from S line and middle E and W of 20 acs., Robert Trammel Sur. Loc.
Texas Co. No. 1 E. E. Hall, James Young Sur. T.D. 6,105 ft.; W.O.C.
United Gas Pub. Ser. Co. No. 1 Eva Fields, John Collom Sur. Cmtd. 7-in. 5,-985 ft.; T.D. 6,034 ft.; W.O.C.
United Gas Pub. Ser. Co. No. 2 Eva Fields, John Collom Sur. Fsg. 6,012 ft.
United Gas Pub. Ser. Co. No. 1 L. J. Cunningham, W. Robinson Sur. Drlg. 1,670 ft.
United No. 3 Fields, J. Collum Sur. Cg. 6,052 ft.
United No. 1 Simpson, 660 ft. N of Texas Co. No. 1 Hall, J. Young Sur. Drlg. 5,-577 ft.
United Gas Pub. Ser. Co. No. 2 F. S. Simpson, 2,091 ft. E and 334 ft. N, SW cor. of 160 ac., James Young Sur. Loc.
United No. 1 J. J. Stewart, J. Collum Sur.

Cmtd. 7-in. 5,965 ft.; T.D. 6,010 ft.; W. O.C.

Harrison County

R. C. Payne et al No. 1 Lowery, H. D. Spain Sur. P.B. to 3,524 ft.

Marion County

Ed S. Holman No. 1 Henderson, R. Bennington Sur. P.B. to 2,443 ft.

Panola County

George Hudson et al No. 1 J. F. Nail, C. McGeary Sur. Set 8-in. 40 ft.; fsg. for core bbl. at 2,345 ft.
Geo. Le Grand No. 1 P. J. Wardleigh, A. Thompson Sur. Set 10-in. 62 ft.

N. C. TEXAS WILDCATS

Archer County

Continental Oil Co. No. 1 Claud Cowan, Blk. 6, J.C.S.L. O.S. 1,003-10 ft.; est. 10 bbls.; P.O.P.
Deep Oil Dev. et al No. 1 Wilson, sec. 76. A.T.N.C. lands. W.O.C. 2,226-34 ft.; P.B. to S.O. wtr.
Luther Hedrick No. 1 Mrs. C. Threet, Blk. 91, J.C.S.L. Drlg. 730 ft.
Huggins Oil Co. No. 1 Perkins, Blk. 13, Denton Co. Sch. Lds. Drlg. 620 ft.
W. T. Hutcheson, Jr., No. 1 Wilson-C, Blk. 121, A.T.N.C.L. Drlg. 580 ft.
Kemp & Waggoner No. 1 Wilson, Blk. 75, A.T.N.C.L. Drlg.
Perkins & Cullum No. 1 Young, sec. 27, Harris. Drlg. 2,400 ft.
D. L. Pickering No. 1 J. D. Bell, Lot 5, C.&P., Blk. 5, Loc.
Riner & Massee No. 1 Wilson, Blk. 118, A.T.N.C.L. O.S. 2,198-2,201 ft.; W.O.C.
Shappell Oil Co. No. 1 C. E. Carter, Lot 37, C.&P., Blk. 5, Loc.

Cooke County

Jas. L. Anderson No. 1 Bruhlmeyer, H. Strong A-930. Drlg. 650 ft.
Anderson & Kerr No. 1 C. A. Stelzer, T. B. Stroud Sur. No. A-950. S.D.O. 2,580 ft.
Anderson & Kerr No. 1 A. Wilson, Strong Sur. A-930. S.D.O. 2,390 ft.
Cain & Chandler No. 1 J. B. Burch, J. McWilliams Sur. A-658. S.D. 1,065 ft.
J. L. Flowers No. 1 V. E. Bush, M. G. Carrico A-200. Loc.
Joe Grazier No. 1 E. P. Bell, F. J. Lindheimer Sur. A-571. Loc.
Hardin Oil Co. No. 1 J. G. Bonner, J. Lindheimer Sur. S.D.O. 2,308 ft.
B. H. Hilburn No. 1 Hugan, A. Myers Sur. No. A-640. Drlg. 1,310 ft.
Lanier et al No. 1 Thetford, S.P.R.R. Sur. A-987. S.D.O. 1,835 ft.
F. W. Merrick, Inc., No. 1 L. P. Bell, J. S Martin Sur. A-699, H.F.W.; S.D.O. 2,-317 ft.
N. Newburn No. 1 Dotson, Wm. Campbell Sur. A-238. S.D.O. 1,710 ft.
Nixon Bros. No. 1 W. R. Harper, W. W. Pettit Sur. A-812. Material.
E. R. Robison No. 1 J. Krebs, H. Wilkey Sur. A-1,090. Drlg. 350 ft.
W. F. Russell No. 1 Belle Payne, Marshall University Sur. A-620, U.R. 6-in. 1,665 ft.
Seitz, Comegys & Seitz No. 1 Field & Bowers, L. Raney Sur. A-878. Spudded.
Sunray Oil Co. et al No. 1-A A. C. McCall, W. H. White Sur. A-1,134. T.D. 4,720 ft.; milling up pipe.
B. F. Thompson No. 1 F. Trubenback, P. Davidson Sur. A-337. S.D. 765 ft.
Whitehead et al No. 1 W. Reed, F. Earthman Sur. A-349. S.D.O. 1,230 ft.
Woodbine Oil Co. No. 1 Potter & Potter, J. Gorham Sur. S.D. 997 ft.

Denton County

Oil Finance Corp. No. 1 J. S. Gambill, T Burress Sur. S.D. 1,042 ft.
C. S. Hoad No. 1 Travelers Insurance Co., Wm. A. Thompson Sur. A-1,238. Drlg. 1,582 ft.
Manning & Moore No. 1 E. L. Darnell, I. Walters Sur. A-1,329. Drlg. 1,260 ft.

Foard County

Humble O. & R. Co. No. 1 Burnett, sec. 16, Blk. X, S.P.R.R. Sur. Fishing 3,210 ft.

Jack County

Bryson Oil & Gas Co. No. 1 G. E. Evett, Geo. Hardesty Sur. A-294. Fsg.; T.D. 4,518 ft.
S. B. Edwards No. 1 Bryson, J. Hughson Sur. A-256. R.U.R.
Engineers Oil Co. No. 1 Cooke, J. Young Sur. Fsg. 2,380 ft.
W. H. Hammon No. 1 G. E. Evett, H. Plaster Sur. S.D. 750 ft.
W. H. Hammon et al No. 1 F. H. Rhodes R. N. Erwin Sur. A-1,378, O.S. 2,433-47 ft.; 600 ft. oil in 30 min.; tstg. wild.
Harper Pet. Corp. No. 1 Van Hooser, J. W. Morrow Sur. A-1,926. S.D. 1,995 ft.
C. Kadane No. 1 E. F. Smith, S.P.R.R. Sur. A-552. S.D. 1,295 ft.; repairs.
Panhandle Ref. Co. No. 1 Klinglesmith, M. Hamilton Sur. A-262. Sd. 3,040-50 ft.; C.O. after shot.
Sternteax Oil Co. No. 1 Boyd, J. N. Wright Sur. A-898. S.D. 3,340 ft.

Montague County

E. T. Hart No. 1 W. L. Davis, sec. 12, Jack Co. School Lds. Drk.
Jim Seeds et al No. 1 Coombs, sec. 58, M.E.P.&P. Sur. Drlg. 1,801 ft.
J. M. Holmes No. 1 H. D. Field, sec. 55, M.E.P.&P. Sur. A-528. S.D.
A. H. Rosenburger No. 1 C. O. Meador, J. English Sur. A-214. Drlg. 1,805 ft.
Southwest Pet. Co. No. 1 W. S. Petty, S. A. Southerlin Sur. A-992. Spud. and S.D.

Wichita County

Pete Harmon et al No. 1 J. B. Jamison, J. Deck Sur. A-52. Drlg. 1,100 ft.
T. B. Medders No. 1 Fassett-B, sec. 2, C. T. A-769. Drlg. 500 ft.
J. M. Morton No. 1 Housler, J. C. Pike, A-509. Drk.
Reno Oil Co. No. 1 W. T. Waggoner-D, sec. 1, S.&M. Sur. A-393. Fsg. 1,576 ft.

Wilbarger County

Franklin Oil Co. No. 1 D. G. Feller, et al, sec. 108, Blk. 14, H.&T.C. Sur. S.D. 1,-570 ft.
Lane & Simons No. 1 Allison, sec. 43, H. &T.C. Sur., Blk. 12. Drlg. 2,580 ft.
Pettit et al No. 1 Castleberry, sec. 67, H. &T.C. Sur., Blk. 14. Spudded.
Smith No. 1 S. A. Dill et al, sec. 32, Blk. 14, H.&T.C. Sur. S.D. 2,090 ft.
L. Webb No. 1 J. L. McCrary, sec. 64, H.& T.C. Sur., Blk. 14. S.D.O. 2,100 ft.
Wheeler & Brashear No. 1 Waggoner-B. Drlg. 1,005 ft.

Young County

Associated Developers No. 1 Terrell, T.E. &L., 285. Loc.; 2,500-ft. test.
Art Cox No. 1 J. T. Rogers, J. Ray D-1,628. Loc.; 4,500-ft. test.
Curtis & Bracken No. 1 Allar Co., W Garmes Sur. A-104. Fsg.; T.D. 4,400 ft.
Hinson Tidwell No. 1 Thompson. Drlg. 1,645 ft.
C. D. Neff et al No. 1 W. A. Dennis, C. F. Bass Sur. S.D. 3,692 ft.
Pitzer West et al No. 1 W. R. Dollins, T.E. &L. Sur. 615. R.U.
Pitzer & West No. 1 Harrell, J. Daily Sur. A-78. C.O.; T.D. 4,600 ft.
Rathke Oil Co. No. 2 J. T. Rogers, S. H. Graham Sur. A-124. Drlg. 4,650 ft.
Texas Co. No. 1 Stephens, T.E.&L. 1,985. Drlg. 2,890 ft.
Yorktex Pet. Co. No. 1 F. G. Burnett, G W. Hill, A-151. Drk.

East Texas Fields

(Continued from Page 81)

O'Byrne, 3,645-3,660 feet, 45 bbls. per hour; No. 26 O'Byrne, 3,734-3,740 feet, 30 bbls. per hour. Doctor Stewart No. 1 Morgan, 3,744-3,747 feet, 20 bbls. in three hours on pump. Twin Oil Co. No. 6 Mackey, 3,725-3,731 feet, 14 bbls. in 30 minutes. Woods No. 4 Mackey, 3,692-3,696 feet, 20 bbls. in 35 minutes; No. 7 Mackey, 3,729-3,730 feet, 20 bbls. in 40 minutes. Ypslanti Oil Co. No. 3 Mackey, dry and abandoned 3,670 feet.

Continuance of Federal Tax Arousing Opposition

(Continued from Page 82)

promised that when the "emergency" is past, the federal gasoline tax shall be eliminated.

However, the continued conditions of depression prolonging the national emergency have facilitated retention of this source of federal revenue, and the ease with which this tax is collected has diverted attention from other equitable and logical sources of revenue. As a result, the 1-cent federal gasoline tax is still in effect, the expiration date of the tax having been extended to June 30, 1937, at the first session of the seventy-fourth congress.

When the federal gasoline tax was first enacted, the motorists offered no concerted opposition. They were willing to acquiesce in view of the emergency confronting the country and the assurance of various members of congress that such a tax was only a temporary budget-balancing expedient. But these taxpayers have since discovered that the "economic emergency" is likely to become a permanent basis for federal invasion of this field.

The fact must be admitted that conditions are now immeasurably better than those existing in June, 1932, the time when the federal tax on gasoline was inaugurated. Thus, the "emergency" argument for the continuance of the federal levy on gasoline is not now justified, and the repeal of this tax would be a further stimulant to business and industry in every state in the union.

Oil to Be Well Represented at the Texas Centennial

Petroleum, the state's second largest industry, is represented at the Texas Centennial Exposition on a scale in keeping with its bigness. Petroleum has contributed far more than any other industry to the tax program of the state, particularly to education in the past few years. By reason of the large contribution made by gasoline, some 10,-000 miles of Texas roadway have been constructed and now are dedicated to the pleasure of the millions of visitors coming to Texas.

Texas statistics show that in 1935, $377,000,000 were expended in exploratory work—drilling, geological surveys of potential fields, etc. Leaders in the oil industry assert that during the next decade such expenditures within Texas likely will average $500,000,000 annually.

On the grounds of the Centennial Exposition, which opens June 6, for a run of 177 days, six major oil companies erected buildings of their own, displaying either exhibits or good will programs for the enjoyment of the visitors. In a building constructed by the Exposition Corp. at a cost of $150,000, other oil companies have housed exhibits, as well as numerous supply houses.

Major companies have expended $500,000 in the erection of their own buildings, of a permanent or semipermanent nature. They have expended an estimated additional $500,000 in equipment and exhibits.

Outstanding is the exhibit of Gulf Refining Co. which has erected a building and installed a radio and public address system at a cost of $150,000. Sound pylons distributing programs from the Gulf studio are placed in all parts of the exposition grounds. The system is capable of broadcasting 14 different programs with no overlap. This system is declared to be the finest ever constructed for any public event. It is a good-will gesture on the part of the Gulf which has reserved only a minimum of space in which to display the far-flung activities of this great refining and marketing concern.

The Texas Co., pioneer Texas corporation, is depicting a history of its development and that of the entire industry in building of a permanent nature. Relief maps will show many of the varied activities of the corporation. A feature is an outdoor patio overlooking the lagoon in the park section. The company's investment at the exposition is $100,000.

Humble Oil & Refining Co. enters with a building and equipment placed at $200,000, in the center of the petroleum group. At the conclusion of the exposition the Humble exhibit will be transferred to the Museum of Natural History, being erected on the campus of the University of Texas in Austin, and there become a permanent archive for the education of future generations.

The exhibit includes dioramas of the oil fields of Texas, with cross sections beneath showing geological foundations down to a horizon of 12,000 feet. Geological relief maps show Texas in varying stages of the prehistoric past. There will be 14 historical dioramas of Texas.

Continental Oil Co. has constructed and opened "The House of Hospitality," a structure along the lines of an old southern colonial home. The expenditure is $50,000. Continental is exhibiting the various marketing processes of the industry.

The Sinclair dinosaurs, in life-size, are the feature of the showing of Sinclair Refining Co. which has expended $75,000 for its building. Its exhibits review the progress of oil from the ground to the consumer.

Magnolia Petroleum Co. is housed in a permanent building, luxuriously furnished. As visitors lounge in its cool rooms they obtain a fine view across the lagoon to the park area. Magnolia's contribution represents an investment of $85,000.

Pennzoil Co. has an exhibit in the form of a theater in the Petroleum building. It is presenting talking pictures of the ramifications of the oil industry, and has invested some $25,000.

Practically every leading oil supply and distributing house in the Southwest has exhibits.

Road Building Bonds

OKLAHOMA CITY, Okla., June 1.—Discussion of a $50,000,000 bond issue suggested for road building purposes in Oklahoma has led to a survey by the Western Petroleum Refiners Association of experiences with highway bond issues in other states.

The tendency has been, the survey reveals, toward the purchase of luxury highways whose earnings from gasoline taxes and license fees are not sufficient to pay interest, depreciation and maintenance charges on the investment. In their understandable desire to please motorists in all sections of the state, highway commissioners and engineers, with suddenly increased revenues at their disposal, tend to overbuild the state systems, rather than to make each road justify its cost.

The incentive to plan highways to meet traffic needs is removed and the immediate construction of excessively high-cost pavements has been the usual result of a highway bond issue. The few exceptions are in states whose highway departments have adopted a long-term plan of procedure and made that plan a part of the state constitution, not amendable by successive legislatures.

Texas Company Contract

The Texas Co. of California has been awarded United States Navy gasoline and fuel oil deliveries totaling more than 91,000,000 gallons, R. T. Herndon, vice president of the company, announced this week. The contract calls for 84,000,000 gallons of fuel oil to be delivered the last half of this year and 5,880,000 gallons to be delivered during the 12 months starting July 1. In addition, 1,400,000 gallons of gasoline will also be supplied.

PERSONAL

RUSSELL B. BROWN, of Washington, D. C., general counsel for the Independent Petroleum Association of America, who took a prominent part in the support of the Disney revised oil import tax bill which was reported favorably out of the Ways and Means Committee of the house of representatives after a long fight. Mr. Brown for a time held a position with the Federal Petroleum Administrative Board.

W. H. WILDES of Chicago, Ill., president of the Republic Natural Gas Company, was in Corpus Christi, Tex., last week for the opening of the company's head offices in that city. The offices were recently moved from Houston to Corpus Christi to be nearer the operations of the company in the nearby Saxet field. Mr. Wildes will maintain his offices in Chicago.

E. H. COLLINS, general manager of the Standard Oil Company of Pennsylvania, has also been made a vice president of the company.

W. W. FLEMING, president, and ROSS GWILLIAM, chief counsel, of the Marathon Oil Company, were in Findlay, Ohio, last week, attending a meeting of the directors of the Ohio Oil Company, the parent company.

G. L. BERRY, who has been handling lease and field work for Olson Oil Company at Hutchinson, Kans., has been transferred to the home office of the company in Tulsa. JAMES HOOVER, geologist for the Olson company, also was recently transferred from Hutchinson to Tulsa.

REX WATSON, petroleum engineer with Humble Oil and Refining Company in San Antonio, Tex., has been made chief engineer for the Largo Oil Company, an associated firm. He left San Antonio for New York last week, where he will sail to Venezuela, South America for his new assignment.

J. R. SWEENEY, of Toronto, Ontario, attended the annual meeting of the Merland Oil Company at Calgary, Alberta, recently.

H. W. CAMP, general manager, and L. D. MANN, general superintendent for the Empire Oil & Refining Company, spent Tuesday in Ponca City, Okla., visiting the company's refinery there.

C. H. BUNN, JR., of the Standard Oil Development Company, New York, has been appointed member of the American Petroleum Institute's Committee on Disposal of Refinery Wastes. He succeeds the late C. L. WAITE.

SID ROBERTS, who has been in the statistical department of the Carter Oil Company at Tulsa for the past year, has been transferred to the engineering department of the Standard Oil Company of Louisiana and will be stationed at Rodessa. He was to leave Tulsa for Rodessa late this week.

F. R. CROWELL and CHARLES R. HOLLAND, of Tulsa, will attend the fiftieth anniversary of the Ohio Oil Company at Findlay, Ohio, this month, as the guests of Marathon Oil Company, subsidiary of Ohio Oil Company. Mr. Crowell was the oldest man to register at the Marathon booth at the Petroleum Exposition and attended the oil and gas celebration at Findlay in 1887. Mr. Holland is also a former Findlay man.

C. L. BUSHNELL, secretary and treasurer of the Ajax Pipe Line Company, Tulsa, was a recent business visitor in St. Louis, Mo.

ERNEST SLICKER, of Slicker Pipe & Tool Company, Knox, Pa., has returned home after visiting Tulsa and the Petroleum Exposition.

SAMUEL ARONOFF is now secretary in charge of research and production of the Crown Oil Products Corporation, Long Island City, N. Y.

G. C. TERRY, manager of eastern oil fields sales for Wall Rope Works, Inc., and located in Parkersburg, W. Va., was a recent Tulsa visitor for a week.

E. C. WILSON, of Seattle, Wash., regional manager of service stations for the Union Oil Company, and H. G. PARRISH, manager of the western region, visited Edmonton, Alberta, recently.

J. HOWARD JOHNSON, assistant to JOE HALE, chief scout of the Texas Company for the Oklahoma-Kansas-Kentucky division, and S. H. GARLAND, of the land department, are in Mexico City, Mexico, on vacation.

A. B. MILLER, formerly development chemist with the Paraffin Companies of San Francisco, Calif., has accepted a similar position in the development department of the Hercules Experimental Station, Wilmington, Del.

JACK CUDDY, of the Sinclair Prairie Oil Company auditing department, returned to work Monday after a two weeks' vacation. MR. and MRS. CUDDY visited in Oklahoma City and Enid, Okla., but cancelled a trip to Colorado because of illness of Mrs. Cuddy.

Do You Remember?

From The Oil and Gas Journal Files

25 YEARS AGO

A man by the name of Fisher has been made Secretary of the Interior and declares he will discipline Oklahoma oil producers and make them pay more money to the Indians if the department can devise the means of making them do so.

Patrick Cullen, of Tidioute, Pa., who with his brother opened the Triumph, Pennsylvania, field, for the second time, dies at 71 years of age.

Crude oil in Kansas and Oklahoma sells for 46 cents per barrel; North Texas crude for 58 and 53 cents; Gulf Coast 67 and 72 cents; Pennsylvania grade $1.30; California 30 cents at the wells and 70 cents delivered to bay points. Kentucky 45 and 72 cents; Illinois 55 cents for heavy and 63 cents for light (30 degrees and over). Lima 77 and 82 cents; Indiana 60 cents.

20 YEARS AGO

M. M. Doan has been advanced from third to second vice president of the Gypsy Oil Company, and his advancement meant a step upwards for John V. McMahon as third vice president. Henry McGraw is made assistant to Mr. McMahon, and Rush Greenslade succeeds Mr. McGraw in Judge Diggs' office, the legal and land department.

Ben Tupper, one of the famous group of oil scouts of the seventies and eighties in the eastern fields, is alive and well in Buffalo, and keeps up with the oil business through The Oil and Gas Journal.

10 YEARS AGO

J. D. Clark has resigned as vice president of the Standard Oil Company (Indiana), to become president of the Midwest Refining Company. His headquarters will be in Denver, Colo.

F. W. Burford has been made general manager of the Crystal Refining Company at Shreveport, La. He was already vice president of the company.

Mary Virginia Marland, wife of E. W. Marland, president of the Marland Oil Company, dies at Ponca City, Okla.

WINSTON L. GOOGINS of Oklahoma City, Okla., visited Calgary, Alberta, recently and inspected operations in a number of adjacent fields.

P. D. MELLON, of the Canadian Western Natural Gas, Light, Heat & Power Company of Calgary, Alberta, was in Edmonton recently on business.

CHARLES NOBLE, scout for the Superior Oil Producing Company, left last week for a two weeks' vacation to be spent at his home at Marlin, Tex.

CHARLES EDWARD MICHENER, well known in Alberta oil development, and MISS AUDREY JENNIE MAY BELL were married at Regina, Saskatchewan, on May 23.

E. A. LANDRETH and CHARLES F. ROESER, Texas oil producers, were recently honored with the Silver Beaver award by the Fort Worth Council of the Boy Scouts of America.

CECIL CHARLES, in the economics department of the Phillips Petroleum Company at Amarillo, Tex., is being transferred to the company's headquarters at Bartlesville, Okla.

J. N. RIPPLE, for the past 25 years superintendent of the Mascot Oil Company's properties in California, has been elected to the board of directors of the company, succeeding A. E. PARRIS, who recently resigned.

W. S. GILFOIL, formerly professor of physical chemistry and chemical engineering at Loyola University, at New Orleans, La., has joined the Louisiana Oil Refining Corporation, Shreveport, La., to take charge of the laboratory of the grease and compounding plant.

PARAGRAPHS

P. CHARRIN, general manager of operations for Schlumberger Well Surveying Corporation, has returned to the Houston, Tex., headquarters of the company after more than a week spent in inspecting the equipment and offices of the California division. It is understood that Mr. Charrin will relieve E. G. LEONARDSON, vice president of the company in charge of domestic operations, while the latter is abroad.

DAVID COLLINS, engineer for Gulf Oil Corporation, Tulsa, left last Friday, and C. H. KEPLINGER, chief production engineer of Shell Petroleum Corporation, was to leave this week for Butler, Pa., where they are to be married June 8 to MISS MARGARET SPANG and MISS LOUISE SPANG, respectively. The brides-to-be are daughters of F. J. SPANG, head of the Oil Well Supply Company of Pittsburgh, Pa., and MRS. SPANG. The two couples will be at home in Tulsa late in June.

ROBERT (BOB) ETHAN ALLEN, assistant California oil umpire since the inception of the present crude oil curtailment program in 1929, has resigned to become associated with the staff of A. O. Smith Corporation, Milwaukee, Wis. Mr. Allen resides in Los Angeles. He is a graduate of the University of West Virginia, spent several years in oil exploratory work in Australia, and assisted in the organization of the California curtailment program. Mr. Allen will leave for Milwaukee early in June.

O. EDWARD KURT is now with the chemical research department of the Ethyl Gasoline Corporation, Detroit, Mich.

E. H. SALRIN, vice president of Tide Water Oil Company, was in Shreveport, La., on company business last week.

J. C. DALLAS, president of Roxana Petroleums, Ltd., has returned to Calgary, Alberta, after several weeks at the Pacific Coast.

R. B. OWINGS, Fort Worth, Tex., independent lease and royalty dealer, spent a day last week in Shreveport, La., attending to business.

WILLIAM L. HORNER of the Core Laboratories, Inc., Dallas, Tex., was the featured speaker at the Houston Geological Society's weekly luncheon the past week.

WILLIAM B. WIEGAND has been appointed Director of Research of the Columbian Carbon Company, 41 East Forty-second Street, New York, N. Y. Mr. Wiegand has been with Binney & Smith, a subsidiary, since 1925.

C. P. WILLIAMS, Dallas, Tex., has been appointed southwestern representative for the Crescent Belt Fastener Company of New York City and will cover the states of Oklahoma, Texas, Louisiana and Arkansas. Mr. Williams will continue to represent the L. H. Gilmer Company.

PAUL HOWARD, engineer in charge of the Bakersfield office of the California Division of Oil and Gas, is conducting a night school course in petroleum geology and engineering, which is being attended by approximately 200 men employed in the various oil fields in the San Joaquin Valley.

E. M. CRAIG, president of the Mar Jon Oil Company of Vancouver, British Columbia, made a business trip to Calgary, Alberta, recently.

DON RYAN, of the Stanolind Crude Oil Purchasing Company, and MISS OLIVE WILES of Tulsa recently were married at Kansas City, Mo. After a brief honeymoon, they were to make their home at Wichita, Kans., where Mr. Ryan is stationed.

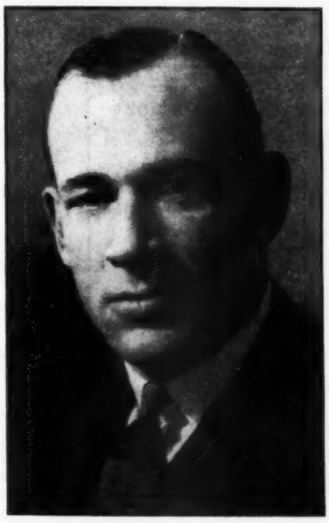
J. H. BROOKS, of Tulsa, vice president of Republic Supply Company, headed a party of Oklahoma and Kansas men attending the company's outing at Galveston, Tex., June 5, 6 and 7. In the party with Mr. Brooks are J. C. UNDERWOOD, A. V. MATHENY and C. W. WOODWARD, of Tulsa; WEBBE CLIFT and T. J. McDONALD, of Oklahoma City; B. L. RUCKER, of Seminole; B. E. KUYKENDALL, of Ada; G. H. JENNINGS and J. W. DONNELLY, of Hutchinson, Kans.; J. W. DONNELLY, of Ellinwood, and CAREY HARVEY, of Russell, Kans., all employes of the company.

W. D. AMBROSE, independent oil operator of Fort Worth, Tex., believes that all work and no play is not good for a man. He finds time to travel and attend conventions and expositions having to do with oil and within the past year took a round the world trip with his family. He was born in Belton, Mo., but moved to Corsicana, Tex., when two years old, living there until a few years ago when he moved to Fort Worth.

A. J. HAWORTH, graduate of the Royal School of Mines at London, England, is spending several days in the Mid-Continent area studying oil production methods and expects to visit the Wyoming and California fields on his way to the West Coast. Mr. Haworth visited various oil properties in Trinidad before coming to Tulsa.

Twirled a Wicked Rag

R. F. Schroeder, assistant general sales manager of the Shell Oil Company of California, might be said to have wiped his way to quick promotion. His first job in the oil business, acquired February 1, 1926, was a modest one, that of attendant at a Shell service station in Sacramento. But young Schroeder twirled a wicked rag. And if he didn't really enjoy making a windshield glisten he acted as though he did. Customers liked his friendly manner. His superiors decided he would be worth more in other work. So after only 10 days at the station he was advanced to salesman. He had three years of valuable experience in this capacity. He displayed executive ability which led to his appointment as assistant to the district manager of the Sacramento district. The next promotion was to district manager in Fresno, where he assumed charge in 1929. Two years later Mr. Schroeder was called to San Francisco to become assistant manager of the Central division and following two years in this post he was made division manager. When Shell's marketing department was reorganized in 1935 to take care of expanding business and to meet new conditions he was made wholesale sales manager for the entire company. He was advanced to assistant general sales manager late in 1935. Mr. Schroeder was born and reared in Sacramento, California's capital.



R. F. SCHROEDER

JACK GREENWOOD of Fort Worth, independent oil man, is among the active operators dealing in North Louisiana, South Arkansas and far East Texas leases.

W. R. BOYD, JR., executive vice president of the American Petroleum Institute, was the principal speaker at the Kiwanis Club luncheon held in Houston, Tex., the past week.

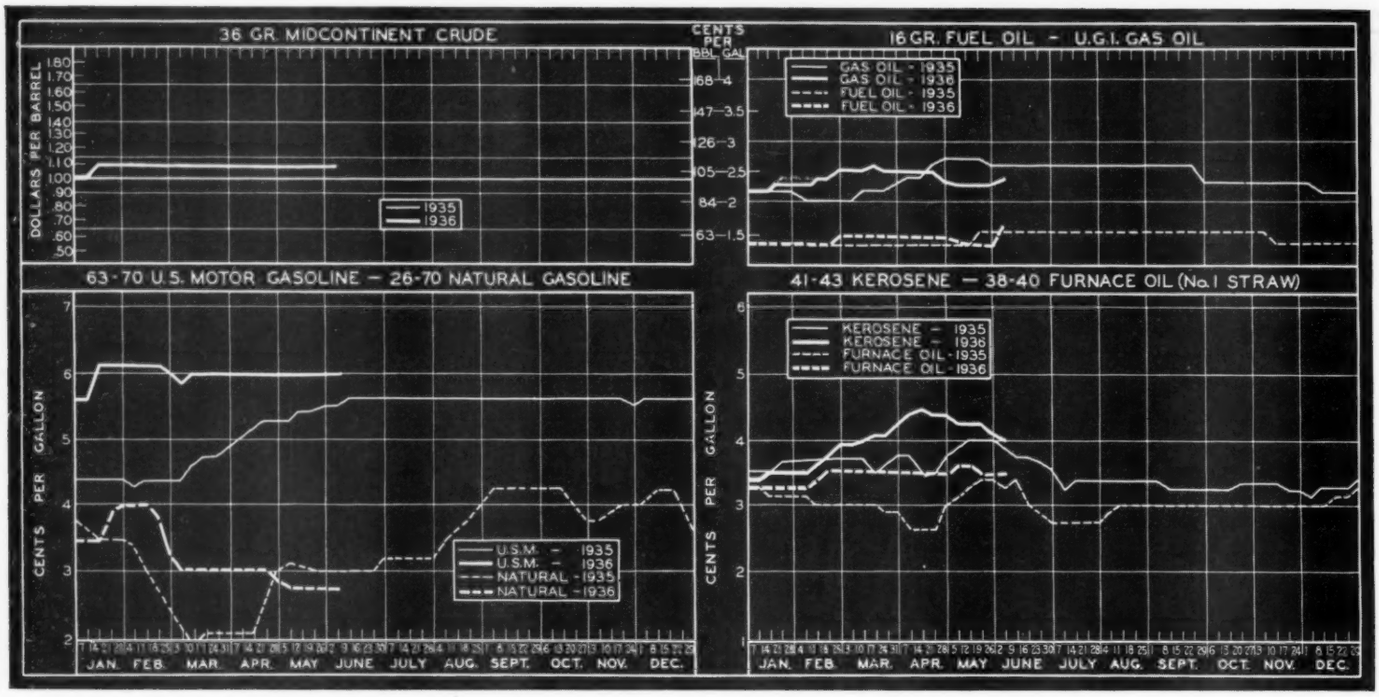
EDWARD B. BEALE, formerly assistant manager in charge of patents, Standard Oil Company (Indiana), has opened an office for the practice of patent law in Washington, D. C.

C. G. LALICKER, who recently resigned as paleontologist for the Sun Oil Company, Dallas, has opened a paleontological laboratory for the Phillips Petroleum Company, in Corpus Christi, Texas.

FRANK O. PRIOR, president, and A. L. SOLLIDAY, vice president, of the Stanolind Oil & Gas Company, with headquarters in Tulsa, were business visitors to the company's offices in Houston, Tex., last week.

R. B. MOORE, Bolivar, N. Y., oil producer, and MRS. MOORE, who visited friends in Tulsa recently, have returned to their home. They stopped off in Tulsa after spending the winter in Florida, California and Mexico.

DR. A. B. SINGLETON has been elected president of the Alberta Pacific Consolidated Oils, Ltd., at the annual meeting in Calgary. Other officers elected were T. A. HORNIBROOK, vice president; T. M. CARLYLE, DR. WILLIAM HACKNEY, H. A. HOWARD, F. E. SPOONER, R. W. WARD and E. T. CRITCHLEY, directors, and J. L. HUNT, secretary and treasurer.


36 GR. MIDCONTINENT CRUDE
DOLLARS PER BARREL
1935
1936
CENTS PER BBL. GAL
16 GR. FUEL OIL - U.G.I. GAS OIL
GAS OIL - 1935
GAS OIL - 1936
FUEL OIL - 1935
FUEL OIL - 1936
63-70 U.S. MOTOR GASOLINE - 26-70 NATURAL GASOLINE
CENTS PER GALLON
U.S.M. - 1935
U.S.M. - 1936
NATURAL - 1935
NATURAL - 1936
41-43 KEROSENE - 38-40 FURNACE OIL (No. 1 STRAW)
KEROSENE - 1935
KEROSENE - 1936
FURNACE OIL - 1935
FURNACE OIL - 1936
JAN. FEB. MAR. APR. MAY JUNE JULY AUG. SEPT. OCT. NOV. DEC.

Representative Mid-Continent Quotations on Crude Oil and Refined Products, Basis Oklahoma (Group 3)

Group 3 Gasoline Market Has Things to Worry Over, but Feels Hopeful

By T. F. SMILEY

Although there was no scarcity of things to worry about, the Group 3 gasoline market was in a more hopeful mood this week. The double holiday which formed the week-end marked the beginning of the vacation season, and reports indicate highways in virtually all areas streamed with pleasure cars. Gasoline consumption will not reach its highest level, of course, till July and August, but the lively opening had an inspiriting influence on trade sentiment.

There is unanimity in the expectation that all records in gasoline consumption will be shattered this year. An increasing number of refiners and marketers predict that this expected demand will absorb the big surplus stocks accumulated as a result of unfavorable motoring conditions earlier in the year. The more conservative observers, however, insist that the 1936 season will be a disappointment, no matter how high the consumption record may be, unless many refiners cut back their runs to stills much more sharply than they have done so far.

Stocks Drained by Double Holiday

In the northernmost parts of the territory which obtains its motor fuel from the Mid-Continent, pleasure driving has been gaining impetus rapidly in the last two weeks, adding appreciably to the draft on refinery stocks. The quickening effect of the Memorial Day and Sunday gasoline consumption was felt plainly this week, when refiners received substantial orders for material to replenish stocks which the double holiday had drained.

The overheavy inventories which make up some 7,000,000 bbls. of gasoline that must be disposed of before something like a balance between supply and demand is achieved are for the most part in the tanks of the major companies. It is pointed out by the optimists, however, that not all the majors have burdensome stocks. One major company, for instance, which had 2,000,000 bbls. of gasoline in January, 1935, is reported to have had only 80,000 bbls. in January, 1936. It is buying from other refiners now.

Bargain hunters are said to have picked up scattered lots of East Texas low-octane gasoline at concessions from the going prices in the last week. Some is reported to have been obtained at 4½ cents for resale and a few stray cars at even a shading of that price. All of it, however, is understood to have been high-endpoint and high-vapor-tension material. It had been pretty well cleaned up early this week, according to reports.

No changes of importance on standard material were recorded in the quotations which have ruled for several weeks. Refiners who tried to get better figures encountered resistance, and there seemed little prospect of any general advance until demand becomes more urgent.

Natural Gasoline Lifeless

A lifeless natural gasoline market showed no price changes on any grades, but feeling was general that the bottom had been reached for the current season. The latter part of the month should witness a tightening of the market if it follows the pattern of other years.

The heavy fuels were in improved position and quotations generally were higher. The railroads were said to be taking most of the low-gravity material and the high-gravity was being used for cracking purposes. Gas oil too was firmer, with limited supplies available. Most of it obtainable in the spot market was said to be coming from Oklahoma City. Refiners generally were using what they had for cracking stock.

Kerosene was somewhat softer. A lull in the demand for kerosene and tractor fuel is expected to set in this month, continuing till the fall plowing season begins.

The lubricant group was steady. Uneasiness in the neutrals, resulting from reported sales of a few grades at pronounced concessions from going prices, seems to have disappeared. So far as could be ascertained nobody this week was offering any bargains. The dull season for wax is here, and quoted prices are nominal, for buyers at any price in the open market are absent.

Refined Oil Market Barometer

Expending consumption has imparted increased firmness to the tankcar gasoline market, and substantial inroads are being made on the huge inventories accumulated in the first quarter of the year. The need of curtailed runs to stills remains. Retail price-cutting continues in scattered areas. Kerosene and tractor distillates show signs of nearing the end of their spring season.

MID-CONTINENT. Gasoline steadier. Heavy fuels, gas oil firmer. Naturals dull.

EAST COAST. Gasoline demand strong, but market unsettled in spots.

GULF COAST. Gasoline demand rising and prospects bright. Kerosene off.

PENNSYLVANIA. Gasoline and lubricants strong.

CALIFORNIA. Gasoline, natural firm.

CHICAGO. Gasoline firmer. Kerosene demand moderating.

East Coast Markets Fairly Satisfactory Despite Unsettlement in Spots

NEW YORK, June 1.—Unsettled in spots, but on the whole in fairly satisfactory shape, the motor fuel markets on the Atlantic Seaboard exhibited no great change during the past week. Most developments during the week were in favor of a firm market. Weather conditions continued satisfactory and were reflected in a strong demand. Refiners were moving gasoline from their storage tanks and reducing their inventories, despite heavy runs of crude oil, at the insistence of jobbers and bulk distributors, who would rather have an oversupply on hand for week-end requirements than to be caught short.

There was no further weakening in the wholesale price structure, following the reductions of the previous week, when the market slipped off approximately one-fourth cent per gallon. At present, 60-64.9 octane material is moving in heavy volume on the basis of 6¾ cents per gallon in tank-car lots. Buyers do not seem inclined to haggle over current prices, perhaps sensing that the recent declines may be of a temporary nature, in which case it would be advantageous to lay in heavy supplies on the present price basis.

New York-Boston Situation

In the two Atlantic Seaboard areas in which price unsettlement exists, namely, the New York and Boston metropolitan districts, however, conditions are worse, rather than better. It appears difficult to obtain a clear analysis of all the factors behind these conditions. There is a tendency on the part of individuals to disclaim responsibility for the price-cutting, but whatever the causes, it is generally agreed that the trade as a whole in these localities will be the chief loser, unless something is done shortly. Dangers of a situation such as that which exists in the New York metropolitan area are obvious. With service station operators fighting it out for business on the basis of price, the structure tends to work steadily lower with spreading out of the affected area. This is exactly what is happening in this district.

One dealer with an outlet in the heart of the price-cutting area in New York states that many service station operators are ceasing to post prices, for the reason that irrespective of the prices they post, competitive stations will immediately undersell. This dealer posted a price of $1.05 for 6 gallons, tax included. Immediately a competitor posted 6 gallons for 98 cents. This dealer, for the time being, is not posting his prices, a policy, however, which has its disadvantages from the viewpoint of obtaining customers who want to know what they are going to pay for motor fuel before driving in at the station.

The most effective manner in which the situation can be met is believed to be by means of a reduction in dealers' margins, which are now fixed at 5 cents for divided dealers and 5½ cents for undivided accounts. None of the marketing organizations seems willing at the moment to take this step, however, with each waiting for the other to initiate the move. Failure to take this step probably would foreshadow a local reduction in tank-wagon and service station prices, with 2 cents per gallon probably the amount needed to reduce dealers' margins to levels considered normal for the eastern territory. The current nominal service station price is 19.2 cents per gallon, including tax.

Connecticut's Solution

Whether or not action recently reported to have been taken by some marketers in the adjacent Connecticut area has any significance with regard to the local situation could not be learned. This action consisted in a reduction on one-half cent per gallon in dealers' margins. However, it is said similar action also will be taken across the line in Westchester County, New York state, in the near future. It is believed this would not be sufficient to help much in the metropolitan area, itself.

The principal refineries on the Atlantic Coast have recently increased their runs somewhat to take care of the greater demand for motor fuel. Another factor is said to have been the increasing difficulty of obtaining high grade crude, which has necessitated increased runs to produce the same amount of gasoline. One result has been a rise of substantial proportions in stocks of heavy oils, including both Diesel oil and industrial fuel oil, with consequent weakness in the latter.

Inventories of motor fuel in the East Coast district during the past month have increased slightly, whereas for the country as a whole there has been a decrease. Fuel oil stocks have increased approximately 4,500,000 bbls. in the entire nation, with the biggest increase in any district recorded for the East Coast refining area, namely about 1,400,000 bbls. Stocks of fuel oil in California, where about 70 per cent of the country's inventories are located, have shown a gain of only about 80,000 bbls. in the past month.

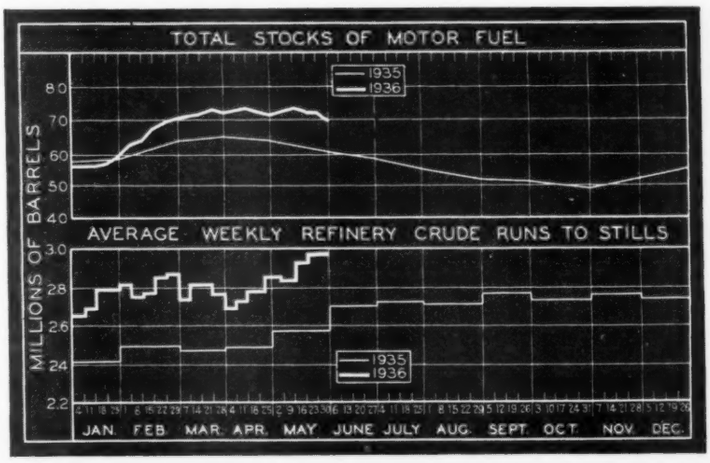
Developments in the fuel oil market in the past few weeks, during which prices have been substantially reduced, may reverse their direction in the event Congress should pass the Disney bill now pending. This bill provides for doubling of the import taxes on crude oil and petroleum products, including an increase in crude and fuel oil duties from 21 cents to 42 cents per barrel. While many have believed this bill had little chance for passage, nevertheless, it is difficult to predict the turn of events in Congress, particularly at the present time, when that body is casting about for new sources of revenue. Eastern refiners are in a large measure dependent on imports of heavy crude oil, topped crude oil and fuel oil, in supplying the demand for gas oil, diesel oil and industrial fuel oil in this market. Any restriction in the imported supply would have the effect of causing at least a temporary shortage of these products, in the opinion of some marketers.

A. P. I. Weekly Refinery Statistics

Week Ending May 30, 1936

	Capacity reporting (per cent)	Daily crude runs (bbls.)	Total gasoline stocks	Gas oil and fuel oil stocks
East Coast	100.0	519,000	19,663,000	8,654,000
Appalachian	94.8	103,000	2,600,000	505,000
Indiana, Illinois, Kentucky	95.9	375,000	10,571,000	3,547,000
Oklahoma, Kansas, Missouri	84.8	298,000	7,334,000	2,932,000
Inland Texas	48.5	111,000	1,584,000	1,696,000
Texas Gulf	96.8	660,000	7,692,000	7,072,000
Louisiana Gulf	96.4	121,000	1,469,000	2,009,000
North Louisiana and Arkansas	90.0	49,000	445,000	401,000
Rocky Mountains	61.9	50,000	1,508,000	753,000
California	92.6	508,000	13,376,000	71,678,000
Total reported	89.6	2,794,000	66,242,000	99,247,000
Estimated unreported	.....	179,000	4,868,000	2,271,000
*Estimated total	.....	2,973,000	71,110,000	101,518,000
*Estimated total previous week	.....	2,975,000	72,490,000	100,212,000
†May 31, 1935	.....	2,594,000	61,483,000	100,177,000

*Bureau of Mines basis currently estimated. †Monthly report, U. S. Bureau of Mines.



The Export Market

The recent shading of export prices for motor fuel at the Gulf is reported to have brought a few more inquiries into the market. One cargo, 10 per cent of which is to be supplied by Gulf exporters, and the remainder probably by refiners in the Dutch West Indies, was said to have been closed for mid-June delivery. It is apparent, however, that Continental buyers are still placing the bulk of their spot gasoline orders in other markets than the Gulf. For instance, a cargo of gasoline has just been purchased in California for shipment to Germany in July, the order involving about 60,000 bbls. The greater part of the Continental buying continues to be directed toward the Rumanian and Dutch West Indies markets. Recent European buying of spot fuel oil in the Dutch West Indies in Mexico has been heavy.

British buyers of Rumanian oil will undoubtedly continue to be aided by the payments agreement between Great Britain and Rumania, which has been renewed for at least a year, beginning June 1. Under this arrangement, payments in sterling for oil purchased are deposited in the Bank of England, and purchasers are, in effect, protected against fluctuations in foreign exchange, within certain limits. It is understood that Great Britain is negotiating similar agreements applying to commodity purchasers in other countries which have currency restrictions.

Firmness continues in the Rumanian market with increasing possibilities that a shift to the American Gulf market will become advantageous from a price viewpoint within the near future.

RETAIL OIL MARKETS

Tank-wagon and filling station prices on gasoline and kerosene furnished by the larger marketing firms

Prices as of June 2, 1936

Taxes

The gasoline quotations given in the following tables include the 1-cent federal tax, as well as state, county and city taxes. The gasoline is the regular or standard grade. In most areas a third grade and a premium grade are also available.

Discounts

Under the standard form of commercial consumer contract which went into effect March 1, 1934, save in California, Oregon, Washington, Arizona and Nevada, a discount of 1 cent a gallon off tank-wagon or 3 cents a gallon off retail prices is permitted for purchases between 4,000 and 10,000 gallons per month, or 4 cents a gallon off retail prices for purchases in lots of more than 10,000 gallons a month. The minimum delivery is 25 gallons.

Standard Oil Co. (Indiana)

	Gasoline: Tank wag.	Gasoline: Serv. sta.	Gasoline: Inc. tax	Kero. tank wag.
Chicago	15.5	17.5	4.0	10.1
Decatur, Ill.	16.0	18.0	4.0	10.1
E. St. Louis	15 7	17.7	4.0	9.8
Joliet	14.5	17.5	4.0	10 1
Peoria	16.0	18.0	4.0	10.1
Quincy	15.8	17.8	4.0	9.9
Davenport, Ia.	16.0	(†)	4.0	10.1
Des Moines	15.8	(†)	4.0	9 9
Mason City	16.2	(†)	4.0	10.3
Sioux City	16.0	(†)	4.0	10.1
Duluth, Minn.	16.8	18.8	4.0	10.9
Mankato	16 4	18.4	4.0	10.5
Minneapolis	16.4	18 4	4.0	10.5
LaCrosse, Wis.	17.4	19.4	5.0	10.5
Green Bay	17.7	19.7	5.0	10.8
Milwaukee	16.3	18.3	5.0	10 4
Madison	17.4	19.4	5.0	10 5
Detroit, Mich.	14.0	16.0	4.0	8.8
Grand Rapids	16.4	18.4	4.0	9.3
Saginaw	16 6	18.6	4.0	10.1
Evansville, Ind.	17 7	19.7	5.0	10.6
Indianapolis	17.9	19.9	5.0	10.8
South Bend	18.1	20.1	5.0	11.0
Fargo, N. Dak.	17.4	19.4	4.0	11.5
Huron, S. Dak.	17.9	19 9	5.0	11.0
Sioux Falls	17.4	19.4	5.0	10.5
Kans. City, Mo.*	15.4	17.4	4.0	8.0
Springfield	15.1	17.1	4 0	9.2
St. Louis	15.7	17.7	4.0	9.8
St. Joseph*	15.4	17.4	4.0	9.5
Wichita, Kans.	14.9	16.9	4 0	7.1
Bartlesville, Ok.	15.0	19.0	5.0	8.5

*State tax 2 cents, 1-cent city tax and 1-cent federal tax.

†Standard Oil Co. (Indiana) has leased all service stations in Iowa.

Discounts to dealers except in Iowa: 2½ cents on premium and regular and 2½ cents on third grade off service station prices; discounts to dealers in metropolitan Chicago one-half cent larger than rest of Standard of Indiana territory, namely 4 cents and 3 cents on respective grades. Dealers in Iowa sold at posted "Dealer Prices."

Stanolex Fuel Oil in Chicago

Effective February 10, 1936, f.o.b. Chicago tank-wagon prices: Range oil, less than 100 gallons, 8.75 cents; 100-149 gallons, 7.75 cents; 150 gallons and more, 7.25 cents. 1 (36-40 lt. stw. zero), less than 100 gallons, 8.75 cents; 100-149 gallons, 7.75 cents; 150 gallons or more, 7.25 cents; No. 3. (22-26 zero), less than 150 gallons, 7.5 cents; 150 gallons or more, 6.5 cents; No. 4 (12-16 zero), less than 400 gallons, 7.5 cents; 400 gallons or more, 6.5 cents, viscosity of No. 4, 85° and 100° F.; No. 5, less than 400 gallons, 5.75 cents; 400 gallons or more, 4.75 cents.

Rocky Mountain District

CONTINENTAL OIL CO.

	Gasoline: Tank wag.	Gasoline: Serv. sta.	Gasoline: Inc. tax	Kero. tank wag.
Denver, Colo.	19.0	21.0	5.0	11.0
Pueblo	19.0	21.0	5.0	13.0
Grand Junction	21 5	23.5	5.0	15.0
Casper, Wyo.	19.5	21.5	5.0	11.5
Cheyenne	19.5	21.5	5.0	13.0
Butte, Mont.	21.0	....	6.0	14.5
Billings	22.5	24.5	6.0	14 5
Helena	22.5	24.5	6.0	17.5
Great Falls	22.5	24.5	6 0	14.5
Salt Lake, Utah	21.0	23.0	5.0	16.0
Twin Falls, Ida.	23 0	25.0	6 0	18.0
Boise	22.5	24.5	6.0	18.0
Albu'que, N. M.	18.5	20.5	*6.5	13.0

*Includes one-half cent city tax.

Discount to dealers with or without contract in Continental territory: Undivided dealer discount off service station price, 4 cents; divided dealer accounts, 3½ cents.

Southern District

STANDARD OIL CO. OF KENTUCKY

	Gasoline: Tank wag.	Gasoline: Serv. sta.	Gasoline: Inc. tax	Kero. tank wag.
Atlanta, Ga.	20.5	22.5	7.0	*13.5
Augusta	20.0	22.0	7.0	*13 0
Macon	20.0	22.0	7.0	*14.5
Savannah	18.5	20.5	7.0	*13.0
Birm'ham, Ala.	21.0	23.0	8.0	11.0
Mobile	21.0	23.0	9.0	10.0
Montgomery	22.0	24.0	9 0	14.5
Jackson, Miss.	20.0	22.0	7.0	*13.0
Vicksburg	19.5	21 5	7.0	*13.0
Jacksonville, Fla.	18.9	20.0	8.0	10.0
Miami	19.5	21.5	8.0	13 5
Pensacola	21.5	23.5	9.0	12.0
Tampa	18.0	20 0	8.0	12.5
Lexington, Ky.	19.0	21.0	6.0	11 0
Covington	18.5	20.5	6.0	10.5
Louisville	19.0	21.0	6.0	10.0
Paducah	18 0	19.0	6.0	8 5

*Includes 1 cent state tax. Montgomery, Ala., has a county tax of 1 cent per gallon, and a city tax of 1 cent per gallon on gasoline, in addition to state tax; and 1 cent per gallon on kerosene. Mobile, Ala., has a city gasoline tax of 2 cents per gallon; Birmingham, Ala., has a city gasoline tax of 1 cent per gallon. Pensacola, Fla., has a city gasoline tax of 1 cent.

Pacific Coast Territory

STANDARD OIL CO. OF CALIFORNIA

	Gasoline: Tank wag.	Gasoline: Serv. sta.	Gasoline: Inc. tax	Kero. tank wag.
San Francisco	17.0	18.0	4.0	11.5
Los Angeles	16.5	17.5	4.0	9.0
Fresno, Calif.	17.5	18.5	4.0	11.0
Phoenix, Ariz.	21.0	22.0	6 0	‡16.0
Reno, Nev.	19 5	20.5	5.0	13.0
Portland, Ore.	19.5	20.5	6.0	13.5
Seattle, Wash.	19.5	20.5	6.0	13.5
Tacoma	19.5	20 5	6.0	13.5
Spokane	22.5	23 5	6.0	16.5

*Retail prices posted by Standard Stations, Inc., a subsidiary.

†Prices are at company's plant or depots, as company does not operate stations. A 4-cent per gallon discount is given dealers and customers taking tank-wagon lots except in Phoenix where discount is 1 cent.

‡Includes 5-cent state tax.

Atlantic Coast District

STANDARD OIL CO. OF NEW JERSEY

	Gasoline: Tank wag.	Gasoline: Serv. sta.	Gasoline: Inc. tax	Kero. tank wag.
Atl'tic City, N.J.	14.3	17.8	4.0	9.0
Newark	14.3	17.8	4.0	7.5
Annapolis, Md.	15.6	19.1	5.0	10.0
Baltimore	15.0	18.5	5.0	8.0
Cumberland	16.6	20.1	5.0	12.7
Wash'g'n, D. C.	13.0	16.5	3.0	9.0
Danville, Va.	17.5	21 0	6.0	12.9
Norfolk	16 0	19.5	6.0	11.3
Petersburg	16.5	20.0	6.0	11.7
Richmond	16.5	20.0	6.0	11.7
Raonoke	17.5	21.0	6.0	12 9
Charles'n, W. Va.	15.8	19.3	5.0	12.6
Parkersburg	15.1	18.6	5.0	11.2
Wheeling	16.0	19 5	5.0	12.2
Charlotte, N. C.	18.4	21.9	7.0	12.6
Hickory	18.9	22.4	7.0	13 0
Mt. Airy	18.7	22.2	7.0	12 8
Raleigh	18.0	21.5	7.0	12.1
Salisbury	18.5	22.0	7.0	12.7
Charleston, S.C.	17.0	20.5	7.0	11.3
Columbia	18.3	21.8	7.0	12 6
Spartanburg	18.7	22.2	7.0	12.9

Tank-wagon gasoline refers to dealer instead of retail prices.

Price basis to dealers: Undivided dealers at regular price less one-half cent. Discount for kerosene, 1 cent off tank wagon price for 25 gallons or more under contract (contract not necessary in Baltimore) except in New Jersey, where no discount (if necessary) is given.

Nebraska

STANDARD OIL CO. OF NEBRASKA

	Gasoline: Tank wag.	Gasoline: Serv. sta.	Gasoline: Inc. tax	Kero. tank wag.
Omaha	18 4	20.4	6.0	10.4
McCook	19.1	21 1	6.0	11.1
Norfolk	18.8	20.8	6.0	10.8
North Platte	19.2	21.2	6.0	11.2
Scottsbluff	19.9	21.9	6 0	11.9

Note—Discounts to dealers: where service station gasoline prices are (maximum overall, including rent) as follows: Reliance, 2½ cents; Standard Red Crown, 3½ cents; Red Crown Ethyl, 3½ cents.

Where service station gasoline prices are below normal resellers' allowances are reduced one-half of the amount below normal, down to the following (minimum overall, including rent): Reliance, 2 cents; Standard Red Crown, 3 cents; Red Crown Ethyl, 3 cents. Discounts to consumers for tank-wagon deliveries covered only by Standard Commercial Consumers Contract, effective January 1, 1935.

Pennsylvania, Delaware and Part of New England

ATLANTIC REFINING CO.

	Gasoline: Tank wag.	Gasoline: Serv. sta.	Gasoline: Inc. tax	Kero. tank wag.
Philadelphia, Pa.	16.5	17.5	5.0	9.5
Pittsburgh	17.5	19.5	5.0	10.0
Allentown	17.0	18.0	5.0	9.5
Erie	17.5	18.5	5 0	8.0
Scranton	16.75	17.0	5.0	10.0
Altoona	17.5	19.5	5.0	9.5
Dover, Del.	17.0	17.0	5.0	10.0
Wilmington	16.5	16 5	5.0	9.5
Springf'ld, Mass.	14.0	17.5	4.0	7.5
Worcester	13.5	17.0	4.0	7.75
Hartford, Conn.	14.5	18.0	4.0	7 0
New Haven	13.0	16.5	4.0	7.5
Providence, R. I.	12.0	15.5	3.0	7.0

Note—Tank-wagon prices are those applicable to consumers purchasing lots of 100 or more gallons in one delivery.

Central South District

STANDARD OIL CO. OF LOUISIANA

	Gasoline: Tank wag.	Gasoline: Serv. sta.	Gasoline: Inc. tax	Kero. tank wag.
N. Orleans, La.	18 5	22.0	‡9.0	12.0
Baton Rouge	17.5	21.0	‡7.0	11.5
Alexandria	18.5	22.0	†*8.0	11.0
Lafayette	19 0	22.5	‡*8.0	12.5
Lake Charles	19.0	22 5	†*8.0	11.0
Shreveport	17.0	20.5	‡7.0	10.0
Knoxville, Tenn.	21.0	24.5	8.0	14.0
Memphis	19.0	22 5	8.0	11.0
Chattanooga	20.5	24.0	8 0	11.5
Nashville	20.0	23.5	8.0	10.0
Bristol	18.75	21.5	8 0	14.5

*Includes city tax of 1 cent.

†Includes 1-cent parish tax. ‡Includes 3-cent parish tax.

Tank-wagon gasoline refers to dealer instead of retail prices.

Price basis to dealers: Undivided dealers at dealer price less one-half cent.

Louisiana kerosene prices include 1-cent state tax.

New York and New England

SOCONY-VACUUM OIL CO., INC.

	Gasoline: Post deal	Gasoline: Serv. sta.	Gasoline: Inc. tax	Kero. tank wag.
Albany, N. Y.	14.0	17.5	5 0	7.75
*Met. N. Y.:				
Manhtn., Bronx	14.2	19.2	5.0	7.25
Staten Island	14.2	19.2	5.0	7.25
Qu'ns & Br'klyn	14 2	19.2	5.0	7.25
Buffalo	14.5	18 0	5.0	8.25
Rochester	14.5	18.0	5.0	8.25
Syracuse	14.5	18.0	5.0	8 75
Boston, Mass.	12.5	16.0	4 0	7.5
Portland, Me.	14.5	18.0	5.0	7.75
Manch'ter, N. H.	15.0	18.5	5.0	8.0
Burlington, Vt.	17.0	20.5	5.0	8.75

*Does not include 2 per cent city sales tax which is calculated on basis of net retail price exclusive of state and federal taxes.

Southwestern District

MAGNOLIA PETROLEUM CO.

	Gasoline: Tank wag.	Gasoline: Serv. sta.	Gasoline: Inc. tax	Kero. tank wag.
Dallas, Tex.	14.0	18.0	5.0	8.5
Fort Worth	13.5	17.0	5.0	8.5
Houston	14.0	18.0	5.0	8.5
San Antonio	14.0	18.0	5.0	8.5
El Paso	15.0	19.0	5.0	8.0
Muskogee, Ok.	15 0	19 0	5.0	8.0
Okla. City	15.0	19.0	5.0	8.0
Tulsa	15.0	19.0	5.0	8.0
Ft. Smith, Ark.	15.5	19.0	5.0	8.0
Little Rock	18 0	21 5	7.5	9.5
Texarkana	14.5	18.5	5.0	8.5

Naphtha

STANDARD OIL CO. (INDIANA)

	Tank wagon*
Oleum spirits	15.7
V.M.&P. naphtha	16.0
Cleaners' naphtha	15.0
Stanisol	15.0

*Prices include 3-cent Illinois tax, but not 1-cent federal tax or 2 per cent retail occupational tax.

Prices f.o.b. Chicago. Each price subject to discount of 1 cent per gallon for 150-gallon lots if covered by contract.

Ohio

STANDARD OIL CO. OF OHIO

	Gasoline: Tank wag.	Gasoline: Serv. sta.	Gasoline: Inc. tax	Kero. tank wag.
Ohio points	17.5	19.5	5.0	*13.5

*Includes state tax of 1 cent.

Canada*

Imperial 3-Star Gasoline

IMPERIAL OIL, LTD.

	Gasoline: Tank wag.	Gasoline: Serv. sta.	Gasoline: Inc. tax	Kero. tank wag.
Hamilton, Ont.	21.0	23.5	8.0	17.0
Toronto, Ont.	21.0	23.5	8.0	17.0
Brandon, Man.	30.8	33.8	7.0	22.3
Winnipeg, Man.	29.2	32.2	7.0	20.7
Regina, Sask.	30.5	33.5	7.0	22.0
Saskatoon, Sask.	33.3	36.3	7.0	24.8
Edmonton, Alta.	32.7	35.7	7.0	24.2
Calgary, Alta.	30.0	33.0	7.0	21.5
Vancouver, B. C.	26 0	29.0	7.0	24.0
Montreal, Que.	19.5	22.0	6 0	17.5
St. John, N. B.	25.0	29.0	8.0	19.5
Halifax, N. S.	25.0	29.0	8.0	19.5

*Imperial gallon used in Canada.

Discount to dealers: Divided dealers pay 3 cents per gallon below station price; undivided dealers pay 4 cents per gallon below station price except in cities of Hamilton, Toronto and Montreal where discounts below station price are one-half cent per gallon less.

Retail Price Changes

Standard Oil Co. of Kentucky May 16 reduced tank-wagon kerosene 1 cent and on May 18 advanced tank-wagon gasoline .5 cent and station gasoline 1 cent in Birmingham; May 19 reduced tank-wagon kerosene 2 cents in Jacksonville; May 21 reduced tank-wagon kerosene 2 cents in Mobile; May 22 advanced tank-wagon gasoline .5 cent and station gasoline 1 cent in Louisville.

Continental Oil Co. May 27 advanced tank-wagon and service-station gasoline 1 cent in Denver and Pueblo.

Magnolia Petroleum Co. May 31 advanced tank-wagon gasoline one-half cent and service-station 1 cent in Dallas.

The average retail price of regular or standard-grade gasoline, based on service-station prices in 50 cities throughout the United States on June 1 was 14.31 cents a gallon. This figure, which is exclusive of all federal, state and county taxes, represents an advance of .04 cent a gallon over that of May 1 and is the highest price recorded for June 1 since 1930. It shows an increase of .61 cent since January 1, 1936, and is .41 cent higher than that of a year ago, when the average price was 13.90 cents.

Texas Purchases

FORT WORTH, Tex., June 1.—Navarro Oil Co. of Houston is reported to have purchased the holdings of E. L. Smith Oil Co. of Mexia for a consideration of $3,250,000. The Smith company owns production in the East Texas field and producing property in Brown, Callahan, Archer, Crockett, Glasscock, Hutchinson, Navarro and Montague Counties.

Purchases of one-half working interest in about 2,000 acres of the Danray Oil Co. leases near Aransas Pass in Aransas County by Atlantic Oil Producing Co. was confirmed by E. H. Blum, Atlantic vice president, who is general manager of the operating company.

Preston Upham of Boston, Mass., has been elected a director of Simms Petroleum Co.

R. D. McClaran, manager of Ohio refineries for the Pure Oil Co., spent several days in Tulsa this week.

PRICES OF REFINED PRODUCTS

All quotations f.o.b. plant in cars for interstate or export movement except as otherwise noted

Prices as of June 2, 1936

The following quotations are exclusive of the federal excise taxes of 1 cent a gallon on gasoline and 4 cents on lubricating oils.

Refinery Gasoline

OKLAHOMA (Group 3)—

U. S. Motor grades:		
62 octane and below (3d. gr.)	.04¾	.05
63-67 octane	.05⅜	.05⅝
68-70 octane (regular)	.06	.06¼
60-62 400 grades:		
62 octane and below	.04¾	.05
63-67 octane	.05⅜	.05⅝
68-70 octane (regular)	.06	.06¼
64-66 375	.05	.05⅛
68-70 360	.05⅛	.05¼

NORTH TEXAS—

U. S. Motor grades:		
62 octane and below	.04¾	.05
63-67 octane	.05⅛	.05⅜
68-70 octane (regular)	.06	.06⅛
60-62 400	.04⅞	.05
64-66 375	.05	.05⅛

NORTH LOUISIANA (Ark., N. La. and Miss. delivery)—

U. S. Motor grades:	
62 octane and below	.05¾
63-67 octane	.06⅛
68-70 octane (regular)	.06¾
60-62 400	.05¾ .06

ARKANSAS (Ark., N. La., Miss. del.)—

U. S. Motor grades:	
62 octane and below	.05¾
63-67 octane	.06⅛
68-70 octane (regular)	.06¾

CHICAGO (Based on Group 3)—

U. S. Motor grades:		
62 octane and below	.04¾	.05
63-67 octane	.05⅜	.05⅝
68-70 octane (regular)	.06	.06⅛
60-62 400 grades:		
62 octane and below	.04¾	.05
63-67 octane	.05⅜	.05⅝
68-70 octane (regular)	.06	.06⅛
64-66 375	.05	.05⅛
68-70 360	.05⅛	.05¼

PENNSYLVANIA (inland refineries)—

58-60 U. S. Motor:	
Below 60 octane	.05⅝
60-64.9 octane	.06¾
65-70 octane	.07
64-66 375	.05¾
68-70 350	.06

CALIFORNIA (domestic movement)—

54-58 U. S. Motor	.06½	.07½
58-60 400	.07½	.08

EAST COAST—(domestic)—

U. S. Motor, below 60 octane:	
*New York (Bayonne)	.06½
Baltimore	.06½
U. S. Motor, 60-64.9 octane:	
*New York (Bayonne)	.06¾
Philadelphia	.06¾
Boston	.06¾
Baltimore	.06½
Charleston, S. C.	.06½
U. S. Motor, 65 and above:	
*New York (Bayonne)	.07
Philadelphia	.07
Boston	.07
Baltimore	.06¾
Charleston, S. C.	.06¾

*All grades of gasoline one-eighth to one-fourth cent less for barge shipments. New York harbor prices are for New York and New England delivery. Prices for New Jersey delivery one-fourth cent lower.

GULF COAST (domestic)—

U. S. Motor grades:		
Below 60 octane	.05⅝	.05⅝
60-64.9 octane		.06
65 octane and higher	.06¼	.06¼

Naphtha

PENNSYLVANIA (inland refineries)—

50-52 450 (blending)	.05½
52-54 450 (blending)	.05½
54-56 450 (blending)	.05⅝

Natural Gasoline

OKLAHOMA (Group 3)—

Grade 26-70	.02¾	.03
Grade 18-55	.03¼	.03½
Low vapor pressure grade:		
*14 lb. v.p. (max.)	.03¾	.04¼
*12 lb. v.p. (max.)	.04¾	.05

*Nominal.

NORTH TEXAS—

Grade 26-70		.02½
Grade 18-55	.03	.03¼

NORTH LOUISIANA (Ark., N. La. and Miss. delivery)—

Grade 26-70	.03⅛	.03¼

CALIFORNIA—

75-85 375-390	.06½	.07½

Tractor Fuel

OKLAHOMA (Group 3)—

40-42 gr., 315-325 i.b.p., 110 flash, 540-550 e.p.	.04⅛	.04⅜
41-43 gr., 300-350 i.b.p., 110-125, flash, 500-520 e.p.		.04¼
46-48 gr., 210-230 i.b.p., 480 max., e.p.		.05

Kerosene

(All kerosene water white)

OKLAHOMA (Group 3)—

41-43	.04	.04¼
42-44	.04¼	.04½

NORTH TEXAS—

41-43	.04⅛	.04⅜

NORTH LOUISIANA (Ark., N. La. and Miss. delivery)—

41-43	.04¼	.04⅜

ARKANSAS (Ark., N. La., Miss. del.)—

41-43	.04⅜	.04⅝

PENNSYLVANIA (inland refineries)—

45	.05⅛	.05⅜
46	.05⅜	.05½
47	.05½	.05⅝

CHICAGO (Based on Group 3)—

41-43	.04	.04⅜
42-44	.04¼	.04⅝

CALIFORNIA (Pac. Coast market)—

38-40 high burning test	.03½	.05

NEW YORK (Bayonne, N. J.)—

*41-43	.04⅞

GULF COAST (domestic)—

41-43	.03⅞

*Barge price one-eighth cent lower.

Furnace Oil

OKLAHOMA (Group 3)—

No. 1 prime white, 38-42	.03⅝	.04
No. 1 straw, 38-40	.03½	.03⅝
No. 2 straw, 32-36	.03	.03¼
No. 2 dark, 32-36	.02⅞	.03¼
No. 3, 28-32	.02¾	.03
No. 3, 15 and above, 28-32	.02⅝	.02½

NORTH TEXAS—

No. 1 prime white, 38-42	.03⅝	.03⅝
No. 1 straw, 38-40	.03⅜	.03½

NORTH LOUISIANA (Ark., N. La. and Miss. delivery)—

No. 2, 32-36	.02⅞	.03

ARKANSAS (Ark., N. La., Miss. del.)—

No. 2, 32-36	.03½	.03⅝
No. 3, 28-32	.03¼	.03¼

CHICAGO (Based on Group 3)—

No. 1 prime white, 38-42	.03¾	.04
No. 1 straw, 38-40	.03⅜	.03⅝
No. 2 straw, 32-36	.03	.03¼
No. 2 dark, 32-36	.02⅞	.03¼
No. 3, zero to 15, 28-32	.02¾	.03
No. 3, 15 and above, 28-32	.02⅝	.02½

NEW YORK (Bayonne, N. J.)—

*No. 1	.04⅞
*No. 2	.04¼
*No. 4	.03¾

*Barge deliveries one-eighth to one-fourth cent under above, tankcar price.

Gas Oil and Fuel Oil

(Gas oil per gal., fuel oil per bbl.)

OKLAHOMA (Group 3)—

U.G.I. gas oil	.02½	.02⅝
No. 4, 24-28, low cold test	.95	1.05
No. 4, 15 and above, 24-28	.80	.85
No. 5, low cold test		.80
Below 18 fuel oil, industrial	.70	.80

NORTH TEXAS—

U.G.I. gas oil		.02½
No. 4, 24-28, low cold test	.92½	1.00
No. 5, low cold test	.75	.77½
Below 18 fuel oil, industrial	.60	.70

NORTH LOUISIANA (Ark., N. La. and Miss. delivery)—

U.G.I. gas oil	.02⅝	.03
10-14 fuel oil, industrial	.70	.75

ARKANSAS (Ark. N. La., Miss. delivery)

10-14 fuel oil, industrial	.60	.65

CHICAGO (Based on Group 3)—

U.G.I. gas oil	.02⅝	.02½
No. 4, 24-28	.95	1.00
No. 4, 15 and above, 24-28	.77½	.82½
No. 5, 18-22	.72½	.75
No. 6, 10-16	.62½	.67½

PENNSYLVANIA (inland refineries)—

36-40	.04⅝ .04⅞

CALIFORNIA—

Los Angeles:		
30-34 gas oil, per bbl.	1.00	1.20
24 plus diesel	1.00	1.25
24 plus diesel (bunkers)	1.10	1.30
12-16 (bunkers at tidewater)	.85	.95
10-16 (cargo lots)	.80	.95
12-17 (tankcars)	.70	.95
San Joaquin Valley:		
10-18 (tankcars)	.65	.75
San Francisco:		
24 plus diesel, per bbl.	1.30	1.35
24 plus diesel (bunkers)		1.35
10-16 (bunkers)		1.00

GULF COAST—

28-30 gas oil	.03¼	.03⅜
28-30 diesel (bunkers)		1.50
Bunkers (bulk cargoes)		.80
Bunker C (bunkers)		.90

NEW YORK (Bayonne, N. J.)—

27 plus, gas oil	.04¼
28-30 diesel (lighterage 6¼ plus per bbl.)	1.65
28-30 diesel (tankers)	.04¼
*Bunker C (to ocean-going ships in N. Y. harbor)	1.05
Industrial fuel (tankcars)	.03¾

*Lighterage charge 5c bbl. additional.

Bright and Steam-Refined

OKLAHOMA (Group 3)—

Bright Stocks:	
190-200 D, 15-25	.21½
150-160 D, 0-10	.18½
150-160 D, 15-25	.18
150-160 E, 15-25	.17½
100-110 D, 0-10	.17
Steam refined:	
631 green (treated)	.13½
600 dark green (untreated)	.06 .07½

PENNSYLVANIA—

Bright Stocks (Pennsylvania grade No. 8 color, 145-50 at 510; 540-550 flash):		
10 pour test	.24½	.25
15 pour test	.23½	.24
20 pour test	.22½	.23
25 pour test	.21½	.22
Steam refined:		
600	.13	.13½
650	.14	.14½
600 Pennsylvania flash	.15	.15½
630 flash	.17½	.18
600 Warren E filtered	.15	.15½

Neutral Oil

(Vis. at 100° F. except Pennsylvania and color N.G.A.)

OKLAHOMA (Group 3)—

Zero to 10 Cold Test:		
150-3		.10
180-3		.11¼
180-4		.10¾
200-3		.11¾
200-4		.11¼
250-3		.13⅜
250-4		.13¼
280-3		.14⅜
280-4		.14¼
300-3½		.15¼
400-3½		.16
100-2 paraffin oil		.05⅝
15-20 Cold Test:		
200-3		.10⅜
200-4		.10¼
240-3		.12⅜
240-4		.12¼
280-3		13⅜
280-4		.13¼

GULF COAST—

Pale Oils:		
200-3	.07	.07½
300-3	.07½	.08
500-3½	.08½	.09
750-3½	.09	.09½
1,200-3½	.09½	.09¾
2,000-4	.09¾	.10
Red Oils:		
200-5-6	.07	.07¼
300-5-6	.07¼	.07½
500-5-6	.08	.08⅛
750	.08½	.09
1,200-5-6	.09	.09½

CALIFORNIA (moving to dom. market)

Pale Oils:		
100-2½-3		.06
200-2½-3		.06¼
300-3-3½		.06½
400-3-4	.08½	.09¼
450-3-4	.09¾	.10
550-3-4	.10	.10¼
600-3-4	.10¼	.10½
Red Oils:		
200-4-5		.06
300-5-6		.06¼
350-5-6	.07	.08
400-5-6	.08	.08¼
450-5-6	.08¼	.08½
500-5-6	.08½	.09
600-5-6½	.09	.09½
700-6½ plus	.09¾	.10
750-6½ plus	.10	.10¼
900-6½ plus	.10¼	.10½

PENNSYLVANIA

150 vis. at 750° F., color, 400-405 flash:		
Zero pour test	.20	.20½
10 pour test	.19	.19½
15 pour test	.18½	.19
25 pour test	.17½	.18
180 vis. at 70° F., 3 color:		
25 pour test	.20	.20½
200 vis. at 70° F., 3 color:		
Zero pour test	.23½	.24
10 pour test	.22½	.23
15 pour test	.22	.22½
25 pour test	.21	.21½

Wax and Petrolatum

(Prices per pound)

OKLAHOMA (Group 3)—

124-126 (a.m.p.) w.c. scale	.02½	.02⅝

PENNSYLVANIA—(inland refineries)—

122-124 (a.m.p.) w.c. scale	.0235	.0240
124-126 (a.m.p.) w.c. scale	.0240	.0245

NEW YORK—

Wax in bags fully refined:		
123-125 (a.m.p.) wax		.0445
125-127 (a.m.p.) wax		.0455
128-130 (a.m.p.) wax		.0480
130-132 (a.m.p.) wax		.0505
133-135 (a.m.p.) wax		.0535
135-137 (a.m.p.) wax		.0560
124-126 (a.m.p.) w.s.	.0240	.0250
124-126 (a.m.p.) y.s.	.0240	.0245
Petrolatum in barrels, carload lots:		
Dark green		.01⅞
Amber	.02⅞	.03
Extra amber	.03	.03¼
Lily white	.06⅝	.06¾
Snow white	.07¾	.07⅞
Cream	.05⅝	.05¾

Export Prices

GASOLINE

GULF COAST—

U. S. Motor	.05	.05⅛
60-62 400	.05⅛	.05¼
61-63 390	.05¼	.05⅜
64-66 375	.05⅜	.05½

LOS ANGELES—

U. S. Motor grades:		
53-55 octane		.04½
55-56 octane	.04½	.04¾
65-67 octane	.04¾	.05
67-69 octane	.05	.05¼
Above 69 octane	.05¼	.05½
65 and above 400 e.p.	.05½	.06

KEROSENE

GULF COAST—

41-43 prime white		.03⅞
41-43 water white		.04
41 water white		.04¼

LOS ANGELES—

41-43 water white	.04¾	.05¼

LUBRICANTS

(Pennsylvania Grade)

NEW YORK (f.a.s. in bbls.)—

Cylinder Stocks:		
600 Warren E	.21	.21½
600 S.R. unfiltered	.19	.19½
650 S.R. unfiltered	.19½	.20
600 flash S.R.	.20½	.21
630 flash S.R.	.23½	.24
Bright Stocks:		
8 color		.26½
6½ plus color in dilution		.26

NEUTRAL OIL

200-3 color	.26½	.27
150-3 color	.22½	.23

PARAFFIN WAX

NEW YORK (prices per pound)—

123-125 a.m.p.	.04125
125-127 a.m.p.	.0425
128-130 a.m.p.	.0450
133-135 a.m.p.	.0525
135-137 a.m.p.	.0550
Crude scale:	
124-126 w.s.	.0260 .0270
124-126 y.s.	.0240 .0245

CRUDE OIL PRICES

Oklahoma, Kansas, North Central and East Central Texas

(January 9, 1936)

East Texas*	$1.15
Van, Tex.†	1.02
Altus and Tipton, Okla.‡	1.08
Other fields (see gravity table).	

*All companies. †Pure Oil Co. ‡Gypsy Oil Co.

West Texas

Crane, Upton, Howard, Glasscock and Mitchell Counties	$ .80
Winkler County	.85
Lea County, N. Mex.	.85
Pecos County*	.85
Pecos shallow†	.75

*Shell Petroleum Co., Gulf Pipe Line Co. and Humble Oil & Refining Co. †Shell Petroleum Corp.

Note—For Humble, Magnolia and Texas Co.'s West Texas and Lea County prices see gravity table. Above prices are those of other buyers.

Rocky Mountain States

(Effective January 9, 1936)

Iles, Colo., light*	$1.06
Iles, Colo., heavy*	1.00
Greybull, Wyo.*	1.28
Torchlight, Wyo.*	1.28
Grass Creek, Wyo., light*†	1.28
Grass Creek, Wyo., heavy*†	.72
Hamilton Dome, Wyo.*	.67
Elk Basin, Wyo., light *†	1.28
Frannie, Wyo., heavy*	.72
Frannie, Wyo., light (Feb. 24, 1936)*	.78
Hogback, N. Mex.*	1.21
Pondera, Mont.* (Jan. 29, 1936)	1.05
Salt Creek, Dutton Creek and Midway, Wyo., take Stanolind's Oklahoma prices on a gravity basis.	
Big Muddy, Wyo.†	1.11
Rock Creek, Wyo.†	1.12
Artesia, N. Mex. (Dec. 1, 1933)‡	.75
Maljamar, N. Mex. (Sept. 29, 1932)‡	.75
Fort Collins and Wellington, Colo.‡ (Jan. 9, 1936)	See Note
Florence, Colo.	.98
Lance Creek, Wyo.	.85
Lost Soldier, Wyo. (Sept. 30, 1933)	.88
Hudson, Wyo. (June 2, 1931)	.65
Sunburst, Mont.	1.35
Cat Creek, Mont.	1.28
Cut Bank, Mont. (May 23, 1934)	1.45

*Stanolind Oil & Gas Co. †Ohio Oil Co. ‡Continental Oil Co.

Note—Fort Collins and Wellington are not posted, price 5 cents under quotation of Salt Creek crude of like gravity (Fort Collins 36°; Wellington 33°). *Stanolind Oil & Gas Co. †Ohio Oil Co. ‡Continental Oil Co.

Southwest Texas

(January 9, 1936)

Saxet	$ .90
Mirando	.85
Pettus	1.25
Salt Flat*	.97
Salt Flat‡	.97
Darst Creek*	.97
Darst Creek†	.97
Luling	.90
Lytton Springs	1.00
Duval County	.85

*Humble Oil & Refining Co. †Magnolia Petroleum Co., Gulf Pipe Line Co. and Texas Co. ‡Shell Petroleum Corp. Saxet posted by Humble and Texas; Mirando by Humble and Magnolia; Pettus by Humble; Salt Flat by Humble; Luling and Lytton Springs by Magnolia; Duvall by Texas Co.

Middle Western States

OHIO OIL CO.

Lima (Jan. 10, 1936)	$1.25
Illinois (Jan. 9, 1936)	1.23
Princeton, Ind. (Jan. 9, 1936)	1.23
Midland, Mich. (Jan. 13, 1936)*	1.32
West Branch, Mich. (Jan. 14, 1936)	1.16
Muskegon, Mich.	1.00
Eastern Kentucky:	
Big Sandy River (Jan. 9, 1936)	1.30
Kentucky River (Jan. 9, 1936)	1.38
Western Kentucky (Jan. 9, 1936)	1.23

*Posted by Pure Oil Co. and Simrall Corp. and includes Greendale, Porter, Beaverton and Crystal crudes. West Branch, Mich., by Simrall Corp. Eastern Kentucky crude purchased by Ashland Refining Co., Ashland, Ky. Oceana posted by Old Dutch Refining Co. and Naph-Sol Refining Co.

Gulf Coast

(January 9, 1936)

Cleveland, Tex.	$1.10
Hardin, Tex.	1.03
Greta, Tex.	.90
Refugio, Tex., heavy	.90
Tomball, Tex.	1.30
LaFitte, La.	1.12
Livingston, Tex.	1.15
Bosco, La. (Jan. 16, 1936)	1.05
Evangeline, La.	1.07
Welsh, La.	.96

Cleveland and Hardin by Magnolia; Greta by Texas Co.; Refugio by Humble; Tomball by Humble and Magnolia; LaFitte by Texas Co.; Bosco by Pure; Evangeline and Welsh by Stanolind Oil & Gas Co.; Livingston by Shell Petroleum Corp.

North Louisiana and Arkansas

Smackover, all grades (Jan. 10, 1936)*	$.75
Smackover, all grades (Jan. 9, 1936)†	.80
Tullos and Urania (Jan. 10, 1936)	.97
Nevada, Ark. (Jan. 10, 1936)	.65
El Dorado East Field (Jan. 16, 1936)	.75
Converse, Holly, Pleasant Hill and Zwolle (Jan. 10, 1936)*	1.10
Lisbon, Ark. (Jan. 10, 1936)*	1.10
Elm Grove, La. (Jan. 10, 1936)	.80

*Standard Oil Co. of Louisiana, Gulf Refining Co., Louisiana Oil Refining Co., Texas Co. (effective January 14) and Magnolia Petroleum Co. (effective January 16). Urania by H. L. Hunt Co. and Louisiana Oil Refining Co. Nevada by Standard of Louisiana. El Dorado East field by Magnolia Petroleum Co. Phillips Petroleum Co. (effective January 17), posts 75 cents for all grades in Union and Ouachita Counties, Arkansas.

Eastern States

TIDE WATER PIPE CO.

(Effective Jan. 13, 1936)

Bradford, Pa.	$2.45
Allegany, N. Y.	2.45

SOUTH PENN OIL CO.

(Effective Jan. 13, 1936)

Pennsylvania Grade Oil in National Transit Lines (Bradford field)	2.45
Pennsylvania Grade Oil in Southwest Pennsylvania Lines	2.17
Pennsylvania Grade Oil in Eureka Pipe Line lines	2.12
Pennsylvania Grade Oil in Buckeye Pipe Line lines	1.97
Corning Grade Oil in Buckeye Pipe Line Co.'s lines	1.42

PENNZOIL CO.

(Effective Jan. 13, 1936)

Pennsylvania Grade Oil in National Transit Lines:	
Group A	2.42
Includes Cochran, Franklin, Hamilton and Doolittle districts.	
Group B	2.41
Includes Titusville district.	
Group C	2.40
Includes Turkey and Tidioute districts.	
Group D	2.39
Includes Bear Creek and Porkey districts.	
Group E	2.36
Includes Eldeneau, Bull Creek, Rough Run, Carbon, Dipner, Bredlin, McJunkin, Jameson, Kenerdell, Emlenton, Tiona, Lacey and Kinzua districts.	
Price depends on lengths of pipe line haul to plant at Oil City.	

PURE OIL CO.

(Effective Jan. 13, 1936)

Cabin Creek, W. Va.	$2.12
Bradford Hollow, W. Va.	2.12
Kelly Creek, W. Va.	2.12

Canada

Ontario (Sept. 9, 1933):	
Petrolia*	$2.10
Oil Springs	2.17
Turner Valley (Feb. 3, 1936):†	
Clear naphtha	2.70
Discolored naphtha	2.46
Crude oil, 50 gravity	2.32
Crude oil, 45 to 49.9	2.12
Crude oil, 40 to 44.9	1.55

*Imperial Oil, Ltd. †Imperial Oil, Ltd., and Regal Oil & Refining Co.

Mexico

Panuco*	$ .74

*F.o.b. ship, based on April transactions and exclusive of production and export taxes and bar dues.

C. W. Sanders, geologist for Shell Petroleum Corp., is at the company's headquarters at The Hague, in Holland, acting as an American adviser. He is expected to return to the Houston, Tex., offices in about one year.

Crude Prices by Gravities

Gravity—	Oklahoma, Kansas, and Salt Creek, Wyo.	Central and North Texas	East Central Texas	North Louisiana, Arkansas	Gray County, Texas	Carson and Hutchinson Counties, Texas	Conroe, Texas	West Texas and Lea County, New Mexico	Gulf Coast, Texas and Louisiana	Anahuac and Dickinson, Texas	Iowa and Cameron Meadows, Texas
Below 20	....	....	....	....	....	....	....	....	$.92	....	$.82
20-20.9	....	....	....	....	....	....	....	....	.94	....	.84
21-21.9	....	....	....	....	....	....	....	....	.96	....	.86
22-22.9	....	....	....	....	....	....	....	....	.98	....	.88
23-23.9	....	....	....	....	....	....	....	....	1.00	....	.90
24-24.9	....	....	....	....	....	....	....	....	1.02	....	.92
Below 25	$.86	....	....	$.78	....	....	....	....	....	....	....
25-25.9	.88	....	....	.80	....	....	....	....	1.04	....	.94
26-26.9	.90	....	....	.82	....	....	....	....	1.06	....	.96
27-27.9	.92	....	....	.84	....	....	....	....	1.08	....	.98
28-28.9	.94	....	....	.86	....	....	....	....	1.10	....	1.00
Below 29	.94	$.84	$.91	....	....	....	....	$.75	....	....	....
29-29.9	.96	.86	.93	.88	....	....	....	.76	1.12	....	1.02
30-30.9	.98	.88	.95	.90	....	....	....	.78	1.14	$1.04	1.04
31-31.9	1.00	.90	.97	.92	....	....	....	.80	1.16	1.06	1.06
32-32.9	1.02	.92	.99	.94	....	....	....	.82	1.18	1.08	1.08
33-33.9	1.04	.94	1.01	.96	....	....	....	.84	1.20	1.10	1.10
34-34.9	1.06	.96	1.03	.98	....	....	....	.86	1.22	1.12	1.12
Below 35	....	....	....	....	$.86	$.81	....	....	....	....	....
35-35.9	1.08	.98	1.05	1.00	.88	.83	$1.24	.88	1.22	1.14	1.14
36-36.9	1.10	1.00	1.07	1.02	.90	.85	1.26	.90	1.22	1.16	1.12
37-37.9	1.12	1.02	1.09	1.04	.92	.87	1.28	.90	1.22	1.18	1.12
38-38.9	1.14	1.04	1.11	1.06	.94	.89	1.30	.90	1.22	1.20	1.12
39-39.9	1.16	1.06	1.13	1.08	.96	.91	1.32	.90	1.22	1.22	1.12
40 and over	1.18	1.08	1.15	1.10	.98	.93	1.34	.90	1.22	1.24	1.12

Magnolia Petroleum Co. in the East Central Texas field pays 7 cents per barrel less than above posted prices in that field.

STANDARD OIL CO. OF CALIFORNIA

Crude oil prices at the well effective March 7, 1936

Gravity—	Signal Hill (Long Beach)	Seal Beach	Alamitos Heights	Huntington Beach	Inglewood	Playa del Rey	Olinda-Brea Canon	Athens-Rosecrans	Dominguez	Elwood Terrace	Torrance	Richfield	Whittier East Coyote (La Habra)	Montebello	West Coyote Hills	Santa Fe Springs	Mountain View	Elk Hills	Buena Vista Hills Midway-Sunset except Lakeview Area	Lakeview Area	Lost Hills	Coalinga	Wheeler Ridge	Kettleman Hills
14-14.9	$.80	$.79	$.74	$.78	$.79	$.80	$.76	....	....	....	$.80	$.76	$.76	$.77	$.78	....	....	$.65	$.70	$.65	$.70	$.70	....	....
15-15.9	.80	.79	.74	.78	.79	.80	.76	....	....	....	.80	.76	.76	.77	.78	....	....	.65	.70	.65	.70	.70	....	....
16-16.9	.80	.79	.74	.78	.79	.80	.76	....	....	....	.80	.76	.76	.77	.78	....	....	.65	.70	.65	.70	.70	....	....
17-17.9	.80	.79	.74	.78	.81	.80	.76	....	....	....	.80	.76	.76	.77	.78	....	....	.65	.70	.65	.70	.70	....	....
18-18.9	.80	.79	.74	.78	.84	.80	.78	....	....	....	.82	.76	.76	.77	.78	....	....	.65	.70	.65	.70	.70	....	....
19-19.9	.82	.79	.74	.82	.87	.84	.81	....	....	....	.85	.76	.78	.77	.78	....	$.70	.66	.74	.66	.74	.71	$.70	....
20-20.9	.85	.79	.74	.85	.90	.89	.84	....	....	....	.85	.78	.85	.77	.80	....	.70	.68	.78	.68	.78	.72	.70	....
21-21.9	.88	.79	.74	.89	.93	.93	.88	....	....	....	.91	.80	.85	.77	.84	$.78	.72	.71	.82	.71	.82	.74	.70	....
22-22.9	.92	.82	.74	.92	.96	.98	.92	....	....	....	.93	.84	.89	.79	.88	.78	.77	.74	.87	.74	.86	.78	.72	....
23-23.9	.95	.86	.77	.96	.99	1.02	.96	$.84	$.79	....	.96	.88	.93	.82	.92	.78	.80	.77	.92	.77	.90	.82	.76	....
24-24.9	.99	.91	.80	1.00	1.02	1.06	.99	.88	.81	....	.99	.91	.96	.85	.96	.82	.84	.80	.97	.80	.94	.86	.79	....
25-25.9	1.03	.95	.82	1.03	1.05	1.11	1.03	.93	.83	....	1.02	.95	....	.89	.99	.86	.88	.83	1.01	.83	.98	.90	.83	....
26-26.9	1.06	1.00	.85	1.07	1.09	1.16	1.06	.98	.86	....	1.05	.98	....	.92	1.03	.90	.91	.86	1.06	.86	1.02	....	....	....
27-27.9	1.10	1.05	.88	1.11	1.12	....	1.10	1.03	.88	....	....	1.02	....	.96	1.06	.95	.95	.88	1.10	.88	1.06	....	....	....
28-28.9	1.14	1.10	.90	1.14	1.15	....	1.14	1.07	.90	....	....	1.06	....	.99	1.10	.99	.99	.91	1.15	.91	1.10	....	....	....
29-29.9	1.17	1.15	.93	1.18	1.18	F.O.B.	1.17	1.12	.93	....	....	1.09	....	1.03	1.14	1.03	1.02	.94	1.20	.94	1.14	....	....	....
30-30.9	1.27	1.19	.95	1.22	1.21	our	1.21	1.17	.95	F.O.B.	....	....	....	1.07	1.17	1.08	1.06	.97	1.25	.97	1.18	....	....	....
31-31.9	....	....	....	....	1.24	Pipe	1.24	1.22	.97	Ship	....	....	....	1.11	1.21	1.12	1.09	.99	1.29	.99	....	....	....	....
32-32.9	....	....	....	....	1.27	Line	1.27	1.27	1.00	....	....	....	....	1.14	1.25	1.16	1.13	1.02	1.34	1.02	....	....	....	....
33-33.9	....	....	....	....	....	....	....	1.32	....	$1.28	....	....	....	1.18	1.28	1.20	1.17	1.04	1.38	1.04	....	....	....	$1.19
34-34.9	....	....	....	....	....	....	....	1.37	....	1.32	....	....	....	1.22	1.32	1.25	1.20	....	....	....	....	....	....	1.23
35-35.9	....	....	....	....	....	....	....	1.42	....	1.35	....	....	....	1.25	....	1.29	....	....	....	....	....	....	....	1.27
36-36.9	....	....	....	....	....	....	....	1.46	....	1.39	....	....	....	1.29	....	1.33	....	....	....	....	....	....	....	1.31
37-37.9	....	....	....	....	....	....	....	1.51	....	1.43	....	....	....	1.32	....	1.37	....	....	....	....	....	....	....	1.35
38-38.9	....	....	....	....	....	....	....	1.56	....	....	....	....	....	1.36	....	1.42	....	....	....	....	....	....	....	1.39
39-39.9	....	....	....	....	....	....	....	1.61	....	....	....	....	....	1.40	....	....	....	....	....	....	....	....	....	1.43
40-40.9	....	....	....	....	....	....	....	1.66	....	....	....	....	....	1.43	....	....	....	....	....	....	....	....	....	....

Newhall, McKittrick, Kern River and Round Mountain 70 cents for all grades. Kern Front 70 cents for all grades.

Market Record of Active Oil Stocks Listed on New York Stock Exchange

Compiled by Carl H. Pforzheimer Co., 25 Broad Street, New York City, Members New York Stock Exchange and New York Curb Exchange

1936 High	1936 Low	Week ended May 29 Sales	High	Low	Close	Stocks—	Total shares outstanding	Par value	Dividend rate	Payable or last paid	Dividends paid in 1935	1935 High	1935 Low	1934 High	1934 Low
125½	75	600	93½	92¾	93½	Amerada Corp.	788,675	N.P.	50cQ	4-30-36	$2.00	80	48½	55⅝	39
35⅛	27⅛	5,200	28¾	27⅛	27⅛	Atlantic Refining	2,664,904	$25	25cQ	6-15-36	1.00	28	20½	35¼	21½
20	14⅛	11,600	17	16	16	Barnsdall Corp.	2,131,090	$5	15cQ†	5-1-36	‡.20	14¾	5⅞	10	5⅞
21⅝	14	49,200	19¾	18¾	18¾	Columbia Gas & Elec.	11,610,036	N.P.	20c	5-15-36	.20	15¾	3⅜	19¼	6⅝
15¼	11½	18,700	12¼	11⅜	11⅞	Consolidated Oil Corp.	13,983,287	N.P.	25c	4-7-36	.25	12¼	6½	14¼	7¼
38½	28½	10,500	30½	28½	29⅛	Continental Oil of Delaware	4,682,671	$5	25c	7-31-36	.62½	35	15⅛	22⅜	15⅝
34¾	22	1,900	26⅝	25¼	25¼	General Asphalt	387,149	$10	25c	12-17-35	.25	22½	11¾	23½	12
12¼	6⅜	5,000	8⅞	8¼	8⅜	Houston Oil (new)	1,098,618	$25	....	10-17-30	....	7	1½	5⅝	2½
23	17¼	6,300	19½	18⅝	19	Mid-Continent Petroleum	1,843,872	$10	40cSA	6-1-36	.40	20½	9½	14¾	9⅛
26¼	17⅛	600	18	17⅛	17⅛	Mission Corporation	1,399,345	N.P.	....	.....	....	17¾	10⅜	..	..
40¾	19⅞	6,900	40¾	36¼	40¼	National Supply of Delaware	382,591	$25	....	5-15-31	....	20⅞	9	21⅛	10
17½	12½	7,700	13⅜	12¾	12⅞	Ohio Oil Co.	6,563,377	N.P.	25cSA	6-15-36	.30	14¼	9¼	15⅞	8½
18	11¾	400	13¼	12¼	12¼	Pacific Western Oil	1,000,000	N.P.	40c	11-30-34	.25	14	6¾	9⅝	5½
4¼	1⅜	500	3	2¾	2¾	Panhandle P. & R.	198,770	N.P.	....	.....	....	1⅞	½	2½	⅝
49⅜	38⅛	14,100	41¾	40	40¾	Phillips Petroleum	4,152,836	N.P.	50cQ¶	6-1-36	1.25	40	13¾	20¾	13⅜
16½	11⅞	5,200	14⅝	13¾	13⅞	Plymouth Oil Co.	1,050,000	$5	25c	6-30-36	.25	13	6½	16¾	7⅛
24⅞	16⅝	16,100	18½	17¼	17⅜	Pure Oil Co.	3,038,370	N.P.	....	9-1-30	....	17	5⅞	14⅞	6⅛
43⅝	31	3,300	32½	31	31½	Seaboard Oil of Delaware	1,244,283	N.P.	25cQ	6-15-36	1.00	36⅞	20¾	38⅜	20¾
19¼	14¾	12,000	17⅜	16⅝	17⅛	Shell Union Oil	13,070,625	N.P.	....	6-30-30	....	16½	5½	11½	6
120	110½	2,000	119½	114⅛	119	Shell Union Oil pfd.	400,000	$100	....	7-1-31	....	111	63½	89	57
6¾	4⅝	800	5¼	4¾	4¾	Simms Petroleum	461,698	$10	1.00 liq.	1-27-36	11.75 liq.	18¾	4¾	17⅛	7¼
31½	19½	1,800	23¾	21⅝	21⅝	Skelly Oil	1,008,514	$15	....	12-15-30	....	20½	6½	11½	6
17	12½	42,700	13⅛	12½	13	Socony-Vacuum	31,151,075	$15	20cSA	3-16-36	.30	15¾	10⅝	19⅞	12½
47⅝	35⅞	9,900	38	36⅛	36½	Standard Oil of California	13,014,754	N.P.	25cQ†	6-15-36	1.00	41⅛	27¾	42⅞	26½
40⅛	32¾	10,600	34⅜	33⅛	34	Standard Oil (Indiana)	15,215,677	$25	25cQ†	6-15-36	1.00	33⅜	23	32¾	23¼
30	25	600	25	25	25	Standard Oil of Kansas	200,000	$10	50cQ	10-31-34	....	32	20	41	26
70	51⅛	18,900	60	58¾	59½	Standard Oil of New Jersey	25,856,081	$25	75cSA¶	6-15-36	‖1.25	52⅜	35¾	50⅛	39¼
91	72	200	81	79	79	Sun Oil	1,733,013	N.P.	25cQ	6-15-36	$1 & 7% Stk.	77	60½	74¼	51⅛
39½	28⅞	16,200	34½	32½	32¾	Texas Corp.	9,340,069	$25	25cQ	7-1-36	1.00	30¼	16½	29⅜	19⅝
15¼	7½	5,400	10½	9⅝	9¾	Texas Pacific Coal & Oil	880,703	$10	....	12-31-29	....	9¼	3¼	6½	2½
19⅛	14¾	12,000	15¾	15	15¼	Tide Water Associated	5,642,342	N.P.	15cQ	6-1-36	....	15⅞	7⅝	14⅜	8
106½	100⅝	1,400	105	104½	105	Tide Water Associated pfd.	626,221	$100	$1.50Q	4-1-36	§6.50	104½	84	87	64½
28½	20⅞	3,700	22¼	21¾	21¾	Union Oil of California	4,386,070	$25	25cQ	5-9-36	1.00	24	14¾	20½	11½
31⅝	22⅝	2,700	25	24¼	25	Union Tank Car Co.	1,200,000	N.P.	30cQ	6-1-36	1.20	26½	20⅞	25¾	15⅝
5¼	2¾	1,100	4⅜	4	4	Wilcox Oil & Gas	424,839	$5	....	5-10-28	....	3⅛	1	5¾	2

•Ex-dividend. †Plus extras. ‡Also 50 per cent in stock of Barnsdall Ref. §Partly on account of accumulation. ‖Dividend 4/75 Mission Corp. paid 3-15-35. ¶Includes extras.

Market Record of Active Oil Stocks Listed on New York Curb

Compiled by Carl H. Pforzheimer Co., 25 Broad Street, New York City, Members New York Stock Exchange and New York Curb Exchange

1936 High	1936 Low	Week ended May 29 Sales	High	Low	Close	Stocks—	Total shares outstanding	Par value	Dividend rate	Payable or last paid	Dividends paid in 1935	1935 High	1935 Low	1934 High	1934 Low
20¼	13¼	3,100	16¼	14⅞	15¼	Bridgeport Machine Co.	150,000	N.P.	....	5-1-30	....	14⅛	3¾	3¾	½
50	39¾	50	42¾	42¾	42¾	Buckeye Pipe Line Co.	200,000	$50	75cQ	6-15-36	$3.00	42½	30½	38	26
4⅞	2½	1,600	3¼	3⅛	3⅛	Caribb Syndicate	799,020	25c	....	.....	....	4¼	1⅝	5½	1⅛
124¾	105	400	111¼	109¼	111¼	Chesebrough Mfg. Co.	120,000	$25	$1.50Q	6-29-36	6.50	157	115	150	116
7⅜	3	28,300	4½	4¼	4⅜	Cities Service	37,804,394	N.P.	....	6-1-32	....	3¼	¾	4¼	1¼
4	1⅛	9,100	3	2½	2½	Colon Oil	2,200,000	N.P.	....	.....	....	2⅛	½	3¼	⅛
4⅛	1½	1,600	2¾	2⅜	2½	Cosden Oil	399,687	$1	....	.....	....	1½	¼	3⅞	⅛
34¾	19⅞	1,400	27¼	26½	27¼	Creole Petroleum	6,974,356	$5	20c	12-31-35	.20	23¾	10	14⅜	9⅝
12	9	900	11⅜	10⅝	10¾	Darby Petroleum	509,696	$5	25cSA	1-15-36	.50	8⅞	4	7½	4⅛
4⅜	1⅞	300	3⅛	3⅛	3⅛	Derby Oil & Refining	263,162	N.P.	....	.....	....	2	¾	2¼	1
44	39	150	41	39½	41	Eureka Pipe Line	50,000	$50	$1Q	5-1-36	4.00	38	33¼	37	30
98	72	1,200	81	78	78	Gulf Oil Corp.	4,538,101	$25	25c	4-1-36	....	74¾	50¼	76¾	49¾
76½	57¼	3,900	60½	57⅝	57⅝	Humble Oil & Refining (new)	8,923,935	N.P.	25cQ	7-1-36	1.25	64	44	49½	33¼
24½	20	10,600	22	20⅞	21	Imperial Oil of Canada	26,919,871	N.P.	62½cSA†‡	6-1-36	1.25	22½	15⅜	17⅞	12⅝
9¼	5½	400	7	6¾	7	Indiana Pipe Line	300,000	$10	20cSA	5-15-36	.35	6⅛	3⅝	6⅞	3⅝
39⅝	33½	3,800	37⅜	35¾	36½	International Petroleum	14,247,088	N.P.	$1.25†‡	6-1-36	2.50	39¾	28	33⅜	19⅜
15⅜	9⅞	3,800	13½	13	13⅛	Louisiana Land & Exp.	3,000,000	N.P.	10cQ	3-16-36	.10	11⅜	4⅜	5	2⅛
15	7⅜	400	11¾	11¾	11¾	Lion Oil Refining	270,000	N.P.	....	10-27-30	....	8¼	3½	6	3⅜
14¼	9⅞	3,200	12	11	11	Lone Star Gas	5,382,723	N.P.	20cSA	2-15-36	.30	10⅞	4½	8⅜	4¼
8⅜	5	3,600	6⅜	6⅛	6⅛	Mountain Producers	1,682,182	$10	30cSA	12-31-35	.90	5¾	4⅛	5½	4
23	17⅝	4,400	19	17¾	19	National Fuel Gas	3,810,183	N.P.	25cQ	4-15-36	1.25	20	11⅜	18½	13⅛
15¾	9⅝	900	10⅛	9¾	9¾	National Transit	509,000	$12.50	40cSA	6-15-36	.75	10⅝	6¾	9½	7
4½	2⅞	300	3	3	3	New Bradford Oil	1,445,202	$5	10cSA	5-15-36	.20	3¼	2	2½	1¾
6⅝	1⅝	100	3¾	3¾	3¾	New Mexico and Arizona	1,000,000	$1	....	.....	....	2½	1	2¾	1
6¼	4½	200	5	4⅞	4⅞	New York Transit	100,000	$5	15cSA	4-15-36	.30	4⅞	3	4¾	3
9¼	5	1,100	5¼	5	5¼	Northern Pipe Line	120,000	$10	15cSA	7-1-36	.50	8	5¼	7	4⅝
6⅝	3¼	24,300	6⅛	5⅜	6	Pantapec Oil	1,608,700	N.P.	....	.....	....	4⅜	1¼	2⅝	⅞
19¼	4½	5,600	16⅛	14⅝	14⅞	Root Petroleum Co.	336,045	$1	....	.....	....	5	1½	....	....
4¾	1⅞	200	3½	3⅜	3½	Ryan Consolidated	296,931	N.P.	....	.....	....	2½	⅝	3⅜	⅞
10	7	2,000	8½	8	8⅛	Salt Creek Producers	1,496,859	$10	40cSA	6-30-36	1.20	7½	5½	7⅞	5½
40½	32½	1,200	37	35¼	37	South Penn Oil	1,200,000	$25	50c†	3-31-36	1.35	34½	21⅝	26½	17⅛
7⅞	4⅜	100	5⅛	5⅛	5⅛	Southern Pipe Line	100,000	$10	15cSA	3-2-36	.30	5	3⅞	5½	3½
60	54	300	60	56	59¾	Southwest Penna. Pipe Lines	35,000	$50	$1Q	4-1-36	5.00	56	44¼	47	41
23⅜	17⅛	3,400	18¾	17⅜	17⅞	Standard Oil of Kentucky	2,604,790	$10	25cQ	6-15-36	1.25	24	18	18⅜	14⅝
14⅝	11½	No sales ..	..	..	..	Standard Oil of Nebraska	188,403	$25	....	6-20-34	....	12	7¾	16⅞	8¼
36¼	21¾	1,000	28	27½	27½	Standard Oil of Ohio	753,740	$25	....	1-3-33	....	23⅝	11½	28½	12¼
5	2⅝	6,700	4½	4¼	4¼	Sunray Oil	1,610,810	$1	....	4-15-31	....	2⅞	⅞	2	††
9¾	6	900	6½	6⅜	6⅜	Texon Oil & Land	336,028	N.P.	15cQ	3-31-36	.60	6⅞	5	11	4⅜
7½	4⅜	2,400	5¼	4¾	4⅞	Texas Gulf Producing Co.	888,076	N.P.	....	12-29-34	....	4¾	2½	7	3⅜

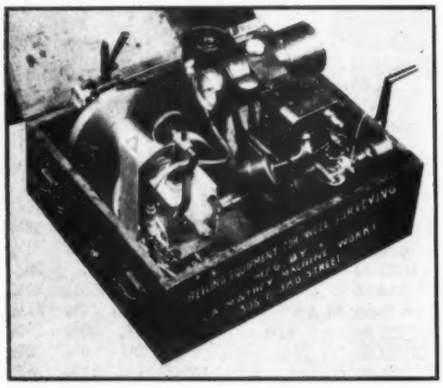
•Ex-dividend. †Includes extras. ‡Payable in Canadian funds.

Note.—In comparing highs and lows for the several years in the two tables, it will be necessary to take into consideration cases where there have been stock split-ups.

NEW OR IMPROVED EQUIPMENT

Portable Reeling Equipment Is Offered for Well Surveying

C. A. Mathey Machine Works, 305 East Third Street, Tulsa, announces a new portable reeling unit for well surveying. The complete unit is



assembled in a wooden box 24"x30"x21", equipped with handles and chains. The box may be used as shipping container or placed in the back of a coupe without extra equipment. When lowering into a well the speed of drop is controlled by hydraulic pressure. Due to this sensitive control the instrument may be used to determine the distance to fluid, lost tools, bottom of the well, or any obstruction in the hole.

The entire unit, built for rugged service, consists of gasoline engine, reduction gear box, reel, hydraulic pump, pressure gauge, oil tank and wood box. The gasoline engine, self-contained and air-cooled, has throttle control, 3-speed governor, air-cleaner and gas tank. The reel is equipped with an extra emergency brake, besides the regular combination clutch and brake. The reeling equipment can be driven with a Mathey power take-off from transmission.

Bulletins, Booklets and Other Literature for the Trade

Catalog 84h, available from Kewanee Boiler Corp., Kewanee, Ill., shows for the first time Kewanee type C boilers conforming with the industry simplified practice recommendation.

No. 9 in the series of "Oilwell Talks," published by Oil Well Supply Co., Oil City, Pa., and Dallas, Tex., is devoted to discussion of factors in the manufacture of high-grade sucker-rods.

A leaflet obtainable from Helmer & Staley, 2446 South Park Way, Chicago, tells about the uses of Markal, a paint in stick form which writes on any surface, wet or dry, hot or cold.

Sullivan Machinery Co., Michigan City, Ind., announces a new bulletin, No. 88-W describing its line of compressed air after-coolers.

The Keystone Driller Co., Beaver Falls, Pa., has prepared a bulletin on the Keystone 74, which "cleans out, bails out, pulls rods, tubing or casing and will deepen your well."

Landis Machine Co., Waynesboro, Pa., is mailing on request its new bulletin on performance of Landis thread-cutting equipment. The bulletin gives data regarding actual results obtained.

A booklet issued for distribution by the Brown Instrument Co., Philadelphia, Pa., illustrates and describes the part instruments play in the modern industrial plant. Another mailing piece offered by Brown is entitled "Modernization the Trend in Industry."

A new bulletin announced by Consolidated Ashcroft Hancock Co., Inc., Bridgeport, Conn., describes in its 20 illustrated pages the new line of Hancock forged steel valves for all steam pressures up to 1,500 pounds.

Literature obtainable from W. A. Hammond, Yellow Springs, Ohio, describes "Drierite," a product designed for drying all the common gases and refrigerants.

"Welding and Cutting High Chromium Steels" is a booklet offered by the Linde Air Products Co., 30 East Forty-second Street, New York.

The Pneumatic Sponge, a general utility pump of particular value in pumping out tanks, pits and similar service is the subject of a bulletin issued by Byron Jackson Co., Berkeley, Calif.

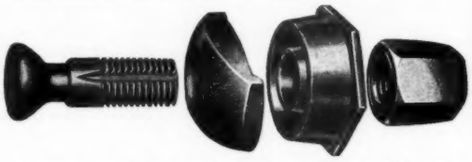
How the Lane-Wells Co., Los Angeles, Calif., gun-perforated a well on the Del Bonita structure, Alberta, Canada, thus establishing a "furthest north" record, is told and pictured in the current issue of "Hot Shots," published by the company.

Detailed information concerning Linc-Weld general-purpose motors is provided in a bulletin, "Facts for Users of A. C. Motors," offered by the Lincoln Electric Co., Cleveland, Ohio.

Pamphlet No. 60, a 12-page publication prepared by National Tank Co., Tulsa, discusses National automatic emulsion treaters for treating crude oil emulsions to pipe-line specifications and for desalting emulsions.

Handhole Cover Assuring Safe Closure Announced by Key

The Key hand-hole cover, announced by Key Co., East St. Louis, Ill., is said by the manufac-



turer to provide a safe closure for handholes in superheater headers, feedwater economizers, water wall manifold headers, boiler headers, etc. The outstanding advantage of this device is said to be that it can be made up and inserted as one piece in the handhole and then tightened, as shown in Figure 1. How the cover can be used for closing

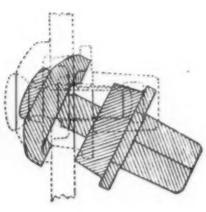


Fig. 1

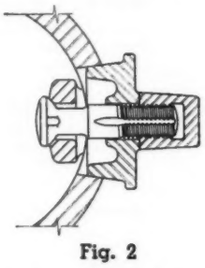


Fig. 2

up handhole openings in a round drum is shown in Figure 2. The device therefore is adaptable as a closure for clean-out and observation holes in the side of dephlegmator towers, tanks and drums. It is made for openings up to 4 13/16 inches in diameter.

C. W. COTTON CO. IS NEW SUPPLY ORGANIZATION

Operating as the C. W. Cotton Co., C. W. Cotton and O. G. Houser have established a warehouse and office at 26 North Guthrie St., Tulsa, where they will represent the Prescott Pump Co., Menominee, Mich.; the Wailes Dove-Hermiston Corp., New York, and the Scalebuoy for the John G. Kelly Co., New York. Mr. Cotton is president and Mr. Houser vice president and treasurer. The company will distribute seamless and lapweld line pipe, drillpipe, casing, tubular products, electric generating units and turbine pumps, pipe line leak-clamps, plugs, packing, casingheads, tool joints, compressors, oil field tools, wire line and internal combustion engines.

C. W. COTTON

O. G. HOUSER

For the last seven years Mr. Cotton has been district manager for Wailes Dove-Hermiston, in charge of the Tulsa, Chicago and San Francisco districts. After graduating from the University of Missouri in 1921 he entered the banking business, later becoming sales manager for the Standard Steel Works, of Kansas City, Mo. Mr. Houser went to Tulsa in 1930 as assistant to the district manager of tubular sales for the Continental Supply Co., but his oil connections date back to 1917. He is vice chairman of the Tulsa Chapter of the American Petroleum Institute.

Derrick-Floor Changes Met by Straight-Line Crownblock

Changes in position of derrick-floor equipment, such as the use of an oppositely disposed drawworks as a standby unit in place of the conventional calfwheel, make more desirable the use of a straight-line crownblock instead of a double-deck or cross-over sheave type. The Regan straight-line heavy-duty narrow crownblock is furnished in six

or seven 48-inch or 60-inch sheaves. The sheaves pin, being of extra-large diameter, provides safety against deflection.

This block, developed as a companion unit for the newly designed Regan narrow traveling block, type G, is known as type F and its capacity is 360 and 500 tons. The spacing between the outer groove centers is only 24 inches. Twelve lines may be strung within the space ordinarily required for eight lines. Literature describing this crownblock more in detail can be obtained from Regan Forge & Engineering Co., San Pedro, Calif.

Handbook on Caustic Soda

"Cutting Costs With Liquid Caustic Soda," a 66-page book announced by the Mathieson Alkali Works, Inc., 60 East Forty-second Street, New York, is a handbook of value in the refinery, where this product is used for neutralizing following the acid treatment of distillates and residual oils and in the doctor treatment of distillates. The book discusses the economic aspects of liquid caustic soda, unloading and handling liquid caustic soda, properties of caustic soda and it aqueous solution, and sampling and analysis of liquid caustic soda. Helpful graphs and tables are included.

Here and There With Men Who Manufacture Equipment

Link-Belt Co., Chicago, has appointed Industrial Supplies, Inc., Popular Avenue and River Front, Memphis, Tenn., as stock-carrying distributor of Link-Belt products.

Babcock & Wilcox Tube Co., Beaver Falls, Pa., has appointed A. D. Heffron, Jr., district sales manager of its Chicago territory with headquarters in the company's Chicago office, 1502 Marquette Building.

The T. V. P. Corp. and the Petroleum Conversion Corp. have moved their main office from 90 West Street to 100 East Forty-second Street, New York.

The Kennedy Valve Manufacturing Co., Elmira, N. Y., manufacturer of valves, pipe fittings and fire hydrants, has appointed R. M. Guiry manager of its Chicago branch office and warehouse.

A. T. Brown, formerly general auditor and assistant secretary of Caterpillar Tractor Co., has been elected a vice president. D. G. Sherwin, vice president, was also named treasurer, succeeding Henry M. Hale, who has been appointed manager of the eastern sales division. E. R. Galvin, former eastern sales manager, was advanced to assistant general sales manager.

The Chicago Pneumatic Tool Co., 6 East Forty-fourth Street, New York, has opened a new sales and service branch at 2415 Commerce Street, Dallas, Tex., in charge of D. G. Reeder, district manager. The Pittsburgh office of the company is now in the Chamber of Commerce Building.

Lee W. Tremblay, Witherspoon Building, Philadelphia, Pa., has been appointed sales representative for the Edward Valve & Manufacturing Co., Inc., East Chicago, Ind.

Appointment of M. W. Smith as manager of engineering is announced by Dr. S. M. Kintner, vice president of the Westinghouse Electric and Manufacturing Co.

General Refractories Co. announce the appointment of E. Corey & Co., Portland, Me., as dealer agent in the Portland area

Mayer Godchaux, Aubudon Building, New Orleans, La., has been appointed representative for southern Louisiana by the American District Steam Co., North Tonawanda, N. Y., manufacturer of products for steam distribution.

The Producers Supply & Tool Co., with headquarters in Fort Worth, Tex., has erected a supply house and pipe yard in Houston, Tex. It already has a pipe yard in Corpus Christi, Tex., and is to build a supply house there.

Oster Announces Machine for Threading and Bucking Up

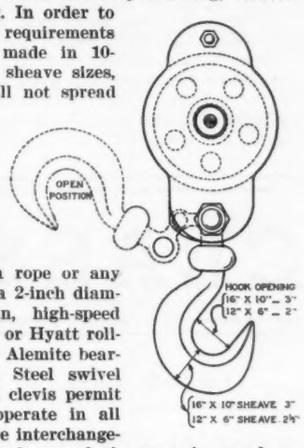
The Oster Manufacturing Co., Cleveland, Ohio, has announced an extra-heavy-duty machine for threading and bucking-up work on all sizes of pipe from 2½ to 8⅝ inches. All shafts are oversize and are made of high-carbon steel, heat-treated and mounted on Timken roller bearings. The headstock gears are also of high-carbon steel and heat-treated.

The clutch is of the double-action type which can be used to throw directly from a low speed into a high or a high speed into a low without shifting gears. It is a friction-disc clutch having a capacity of more than twice the overload rating of the 15-horsepower motor which drives the machine. The two clutch speeds, together with the regular transmission, give the machine a complete range of spindle speeds from 3 to 87 r.p.m., so that the most efficient speeds and power for bucking-up, threading and cutting off may be easily obtained.

For oil-field requirements a receding attachment of conventional design is standard equipment, so that long, correctly tapered A.P.I. threads can be cut. A taper attachment is provided with three-sixteenths, three-eighths and three-fourths inch taper.

Steel Snatchblock Is Designed for Many Kinds of Service

McKissick Products Corp., 122 North Lansing Ave., Tulsa, manufacturer of oil field equipment, announces the McKissick heavy duty snatchblock, designed for all kinds of heavy trucking, tractor and rotary work. In order to take care of any requirements the blocks are made in 10-inch and 6-inch sheave sizes, of steel, and will not spread even under a heavy load.



Special features, outlined by the manufacturer are steel sheaves grooved to use 1½-inch manilla rope or any size wire rope, a 2-inch diameter sheave pin, high-speed bronze bushings or Hyatt roller bearings and Alemite bearing lubrication. Steel swivel hooks or swivel clevis permit the blocks to operate in all positions and are interchangeable. Either hook or clevis may be used on each size block, and the line can be threaded without removing hook from block. To handle the demand for a lighter block for general field work, the McKissick industrial type block, incorporating the same features is made. Both the heavy-duty and industrial snatchblocks are available in either single or double sheaves.

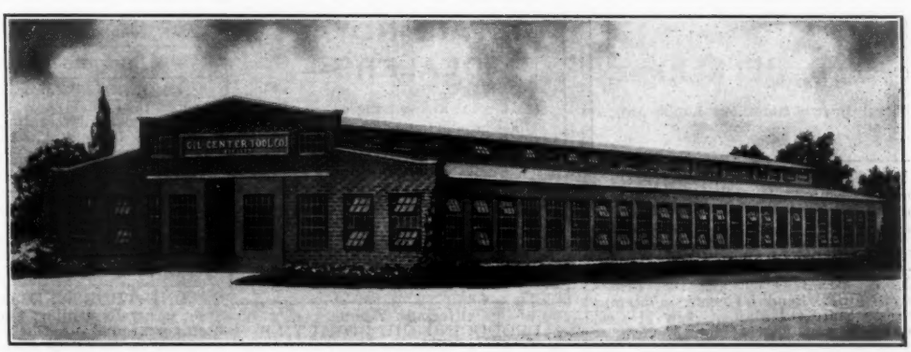
Improvements in Wall Scraper Announced by MacClatchie

MacClatchie Manufacturing Co., Compton, Calif., announces that it has made important improvements in the performance of its wall scraper. This device has practically closed circulation until the blades are sufficiently open to insure that additional weight from the drillstem will fully expand them. This feature enables the operator to know for a certainty when the blades are open.

Hose Built Like a Tire

A new air hose which features a new cord-construction principle has been announced by the New York Belting & Packing Co., Passaic, N. J. The Sterling cord air hose is built much like a tire, with the cords laid in tough rubber cushions and isolated from adjacent plies. Among reported advantages are lighter weight, more flexibility, and greater resistance to pressure.

OIL CENTER TOOL CO. COMPLETING NEW PLANT



Oil Center Tool Co., Houston, Tex., has near completion its new manufacturing plant, which will represent an investment of $87,000. It includes a building 80x200 feet, of all-steel construction, concrete flooring and brick front and a brick-and-concrete office building 50x32 feet. Both are to be fireproof and of the most modern construction.

The company's expansion program will involve expenditure of more than $30,000 for machinery in the new shop, including a 7½-ton type electric crane in the center, with a span of 40 feet, and two 20-foot traveling cranes, one on each side, the combined crane facilities covering every foot of space in the shop. The company, beginning with a small repair shop in 1927, is now a leading manufacturer of surface control equipment, with $100,000 capitalization.

Gas Tax Diversion Blamed for Highway Fatalities

Diversion, congestion and death are intimately related as cause and effect in our frightful record of motor car fatalities, a study by the Western Petroleum Refiners Association reveals.

Comparing the death rate with the gasoline consumed, the study reveals that in 16 of the 24 states having higher than average death rate, motorists permitted diversion of their gasoline taxes and license fees to some other purpose than highway construction. Similar results are shown when the death rate is compared with the total population or with the number of registered motor cars.

"Diversion of revenue intended for highway building," the report states, "causes a limitation in highway mileage. The result is hazardous congestion and the immediate consequence is an increase in the death rate.

"Each dollar lifted from the highway funds subjects the motorist to greater hazards. Diversion is also the cause, as well as the effect, of burdensome taxation of the motorist."

Another form of diversion resulting in limitation of highway mileage and hazardous congestion consists of diverting funds from roads badly in need of improvement, as shown by traffic counts, to those roads whose traffic does not justify the investment. This form of diversion can be eliminated if motorists insist that each highway bear its own operating expense—interest, depreciation and maintenance—from the gasoline taxes and license fees on cars actually using it.

Al Buchanan, of San Antonio, Tex., caught a 10-foot swordfish in the Gulf of Lower California last week while on a fishing trip with his associate G. A. C. Halff. Mr. Buchanan left San Antonio last week with two friends, Frank Lefevre and Joe Payne.

CLASSIFIED ADVERTISING

For Sale—Maps

OFFICIAL NOMENCLATURE MAP OF COLORADO

SHOWS: Oil fields in green and gas fields in red, hand-colored. Index giving location of each field and official name. Cities, towns, county seats and principal streams.

SIZE: 42" x 50". SCALE: 1" = 8 miles.

E. C. JACOBSON

Phone: 4-5419 Tulsa, Oklahoma 530 McBirney Bldg.

For Sale—Maps

Oilfield and County Ownership Maps. New price list on request. Send $1.00 for map of Texas and eastern New Mexico.
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Fair Bldg. Fort Worth, Texas

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PRODUCING OIL ROYALTIES
15 years of experience.
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Paul Brown Bldg., St. Louis, Mo.

MONTHLY PAYING ROYALTIES on which we have filed SCHEDULES A with the SEC at WASHINGTON. Quoted Dealers Exclusively.
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NEW MEXICO Oil and Gas Leases and royalties. Send 50 cents in stamps for new State Oil Map of New Mexico.
Roy G. Barton, Clovis, New Mexico.

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VAN POOL — EAST TEXAS
Bought — Sold — Wholesale.
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Royalties—Production

I BUY AND SELL oil royalties and producing wells, East Texas field. B. A. SKIPPER, Longview, Texas.

HIGH GRADE producing oil and gas royalties offered to dealers. Billie Smallwood, P. O. Box 2261, Tulsa, Oklahoma.

F. A. SANSOME
Trustee for First and Second
Dependable Oil Corps.
MAINTAINS MARKET FOR DEALERS
Over $200,000.00 in producing oil royalties on hand at all times
522 Fifth Ave. New York, N. Y.

SHERIDAN and GOVE Cos., Kansas drlg. blks. Royalties, Leases, Low Prices. Mutual Oil Enterprise, Oakley, Kansas.

ANDREW J. BARRETT
The Philtower
Tulsa, Oklahoma.

Producing-ROYALTIES-Non-Producing
Dealers Exclusively
Schedules and Engineers reports furnished
G. D. TERRIEN
412-13 Central Bank Bldg., Tulsa, Okla.

RETAIL ROYALTY DEALERS—

If you are interested in High Class producing and non-producing royalties for investors write or wire

CHESTER IMES, Inc.

First National Building
Oklahoma City, Okla.

Offerings Wanted
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(Wholesale Only)
M-K OIL COMPANY
20 Broad St., New York.

Financing

JAMES E. MILLER, 604 W. Seventh St., Tulsa, Okla., will aid in financial marketing problems. Fee basis.

PROSPECTUSES prepared and deals shaped up for registration or exemption under Federal Security Act. Fee basis. John Morris, Box 5411, Philadelphia, Pa.

Leases—Production

ATTENTION! BROKERS, SALESMEN & WHOLESALERS
Wildcat Leases in Drilling Blocks—$1.00 to $5.00 per acre
Good Geology Plats Furnished on Request

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Worth while for your most careful consideration. About 1200-acres with 11 wells 325 & 420-ft. of Oil and Gas production, now paying net 10% on about $20,000.00.

WANT—One or two associates to join in the investment and further development. Special information to prompt actors.

Located in the most fertile pools of Miami Co., Kansas.

Can buy these properties for $10,000.
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Paola, Kansas.

NO MORE DRY WELLS—Try our effective prospecting system; send immediately a printed plan of township and detailed plan of property where you are working. A preliminary report giving the possibilities to get gas or oil will be mailed promptly ABSOLUTELY FREE. Try it you will be surprised. Our motto, "NO OIL NO PAY." Address: Eurisko Prospector, 814 Insurance Exchange Bldg., Montreal, Canada.

Business Opportunities

GEOLOGIST desires connection on percentage basis plus expenses. Highest credentials. Address Box G-823, The Oil and Gas Journal, 415 Lexington Avenue, New York City.

WANT loan of $100,000.00 for five years to manufacture and sell new patented "Hydraulic Rotary Drill." Drilled 157 feet in 33½ minutes. Drills up to 6½ feet per minute. Will give 5% interest plus $25,000.00 bonus.
ROSCOE P. ROSS, Mound City, Mo.

ONE THOUSAND ACRES, three offset gas wells drilling, Central Ohio, proven gas around, need help to drill. Big opportunity for oil man with capital. Don't write—wire—come see. G. S. Lacknett, Loudonville, Ohio.

Incorporations

DELAWARE CHARTERS: Complete incorporating and organizing service $35. Submitted forms. Chas. G. Guyer, Inc., Wilmington, Delaware.

CHARTERS — Delaware best, quickest, cheapest, most liberal. Free forms. Colonial Charter Co., Wilmington, Del.

NEW MEXICO—My weekly scout report furnishes complete and reliable information on New Mexico developments. Send for copy. W. S. Patterson, Santa Fe, New Mexico.

NEW MEXICO Oil and Gas Leases and Royalties. Also inquiries and listings wanted. F. R. WARN, Santa Fe, New Mexico.

ECTOR COUNTY Drilling Block: 960 acres short distance northwest Goldsmith pool. Sound reasons for heavy production. Wire H. B. Opp, Burnet, Texas.

DRILLING BLOCK Young County, Texas, 100 acres top of structure; 750 ft. first oil sand; 40 gravity oil; cheap drilling near producing wells.
Roy G. Barton, Box 191, Clovis, N. Mex.

OFFERING very cheap, fee and all royalty, possible oil and gas bearing territory, 20-40-80 and 160-acre tracts in Oklahoma. Billie Smallwood, P. O. Box 2261, Tulsa, Oklahoma.

10,000 acre 10 yr. lease 50c rentals, Thomas County, Kansas. Will sell or make a drilling contract to a responsible party. H. A. Ratzlaff, 330 West 6th St., Newton, Kansas.

SHELBY COUNTY at last has a producing well. Several tests now going down. This County has been worked out and approved by best geologists. Have 1,000 acres on structure for drilling contract. Small bonus. C. A. Parker, Box 451, Center, Texas.

9,000-ACRE oil lease for sale, located south of Sea-Boards 12,000,000-ft. gasser in Hamilton County. H. B. Opp, Burnet, Texas.

540 A. producing leases 32 wells stripper area Nowata Co., Okla. Favorable for repressure program. $12,500.00. A H. Clausing, Coffeyville, Kansas.

FOR SALE lease on drilling block of 4,560 acres in Torrance County, New Mexico, in township 9n, range 13e. Address Box H-302, The Oil and Gas Journal, Tulsa, Oklahoma.

FOR SALE Oil & gas leases in proven territory and on leases adjoining new production where drilling is now being done, also leases for drilling contracts one or more wells. W. P. HARLEY, Bowling Green, Kentucky.

Crude Contracts

WANTED: Long contract for 250 barrels per day, low gravity, Arkansas, Louisiana or Texas crude by specialty manufacturer in Central United States. Prefer crude loaded in cars on Cotton Belt Railroad. Give quotation and analysis. Address Box H-301, The Oil and Gas Journal, Tulsa, Oklahoma.

Equipment Wanted

WANTED AT ONCE. Used 150 KW DC 220 Volt three wire, direct connected Diesel Unit. Must be in first class condition and priced low. W. E. Stevens, 1228 Baltimore Avenue, Kansas City, Missouri.

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Help Wanted

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WANTED: Responsible drilling contractor to drill several 1200 foot wells in proven territory. Cash payment upon satisfactory completion. State type of rig. Address Box H-282, The Oil and Gas Journal, Tulsa, Oklahoma.

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We reserve the right to withhold all advertising of questionable character. To avoid delay be sure to send remittance with copy. We will set your ad in the smallest amount of space possible and refund all overpayments. One-time insertions will not be run until fully paid. Forms close MONDAY NOON before each issue date.

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Tulsa, Oklahoma

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1-4—Tulsa, Oil Field, Gas Well, and Refinery Workers Union, International Convention, Hotel Tulsa.

4-5—Pittsburgh, Pa., American Petroleum Institute, Division of Production, Eastern District, Wm. Penn Hotel.

15—Dallas, Tex., Dixie Interstate Board, Adolphus Hotel.

17-20—Dallas, Tex., American Society of Mechanical Engineers.

18-19—State College, Pa., Pennsylvania Grade Crude Oil Association, thirteenth annual meeting.

June - July

29-July 3—Atlantic City, N. J., American Society for Testing Materials, annual meeting, Chalfonte-Haddon Hall.

July

31—Dallas, Tex., Interstate Oil Compact Commission meeting.

September

?—Tulsa or Oklahoma City, American Petroleum Institute, Division of Production, Mid-Continent district.

7-12—Pittsburgh, Pa., American Chemical Society, semiannual meeting.

7-12—Washington, D. C., World Power (Fuel) Conference.

October

?—Cleveland, Ohio, American Institute of Mining and Metallurgical Engineers.

November

9-12—Chicago, American Petroleum Institute seventeenth annual meeting.